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The larva of *Orthetrum balteatum* LIEFTINCK (Odonata: Libellulidae)

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A b s t r a c t : The supposed larva of *Orthetrum balteatum* LIEFTINCK is described from the Northern Territory, Australia, and compared with the other Australian species of *Orthetrum* NEWMAN.

K e y w o r d s : *Orthetrum balteatum*, larva, description.

Introduction

Orthetrum balteatum LIEFTINCK is the largest and bulkiest *Orthetrum* species recorded from Australia. It is now known from Cape York Peninsula and the "Top End" of the Northern Territory in Australia and from New Guinea (WATSON et al. 1991). Even though WATSON & ABBEY (1980) had recorded adults from lagoons in the main channel and floodplains of the Magela Creek HAWKING (1993) did not associate the larva of *O. balteatum* with the adult but pointed out that a final instar exuvia he called libellulid sp. "a" could possibly be *O. balteatum*.

Recent work towards a key to the larvae of the Australian Libellulidae (THEISCHINGER & HAWKING in prep.) and studies of the adults have made us confident that HAWKING's (1993) libellulid sp. "a" is the larva of *O. balteatum*. We describe, illustrate and discuss it below.

Description

***Orthetrum balteatum* LIEFTINCK**

Orthetrum balteatum LIEFTINCK 1933: 63; WATSON & ARTHINGTON 1978: 152; WATSON & ABBEY 1980: 16; WATSON et al. 1991: 252; HAWKING 1993: 70.

Final instar exuvia (Figs 1-3)

D i m e n s i o n s : Total length approximately 28.0 mm; width of head across eyes 5.4 mm; greatest width of prementum 4.2 mm; length of metafemur 5.5 mm; length of abdomen 18.0 mm, greatest width 7.5 mm.

C o l o u r a t i o n : Yellowish- to pale greyish brown without distinct pattern or markings.

M o r p h o l o g y : Distal margin of prementum crenulated (11-12 crenulations each side) and medially produced into subtriangular lobe; 3 pairs of long premental setae and between them each side a wide, short field of approximately 20 small secondary setae; labial palps with 4-5 palpal setae and with approximately 10 flat dentations, each marked by a single seta; movable hook short, nearly straight, slim, and finely pointed.

Lateral margin of postocular lobes nearly parallel to body axis. Particularly femora and tibiae with fringes of long setae. Abdominal terga 5-9 somewhat pitched, mid-dorsally apparently very slightly produced and hairy but without spines; slim lateral spines on segments 7-9; anal pyramid reaching well beyond imaginary crossing of lateral edges of segment 9; all elements of anal pyramid finely pointed; epiproct and paraprocts subequal in length and at least twice as long as cerci.

M a t e r i a l e x a m i n e d : 1 final instar exuvia, Australia, Northern Territory, Island Lagoon, Magela Creek, 3.12.1979, J.A.L. Watson; in Australian National Insect Collection, CSIRO, Canberra (=ANIC).

Discussion

Recent studies of the larvae of all (available) genera of the Australian Libellulidae made it possible to come up with clear diagnoses for most genera including *Orthetrum*. All previously described Australian *Orthetrum* larvae and the larva described above share a genus diagnostic combination of characters including parallel sides of the head, prementum with medially lobed ligula and with 3 long setae and a transverse field of small setae each side, and a stout but rather narrowly pointed abdomen. Of the 6 Australian species of *Orthetrum* only the larvae of *O. serapia* WATSON and *O. balteatum* are still unknown (WATSON & ARTHINGTON 1978). It has to be assumed that the larva of *O. serapia* will be very hard to distinguish from that of its very close ally *O. sabina* (DRURY) which generally has 8 palpal setae and distinct, characteristic mid-dorsal spines on abdominal segments 4-7. It also has, as have all previously known Australian *Orthetrum* larvae, lateral spines on segments 8 and 9 only (HAWKING & THEISCHINGER 1999). The larva described above has only 4-5 palpal setae and stands out from all its known Australian congeners by large size and by the presence of lateral spines on segments 7-9. As the larva of *O. balteatum* is still unknown and as we have an *Orthetrum* larva apparently not belonging to any other species known from a locality where *O. balteatum* adults were found, we consider it safe to assume that the larva described above is that of *Orthetrum balteatum*.

Zusammenfassung

Die Larve von *Orthetrum balteatum* LIEFTINCK (determiniert per exclusionem) von Northern Territory, Australien, wird beschrieben. Sie kann von den bekannten Larven der übrigen australischen *Orthetrum* Arten durch Lateraldornen am Abdominalsegment 7 unterschieden werden.

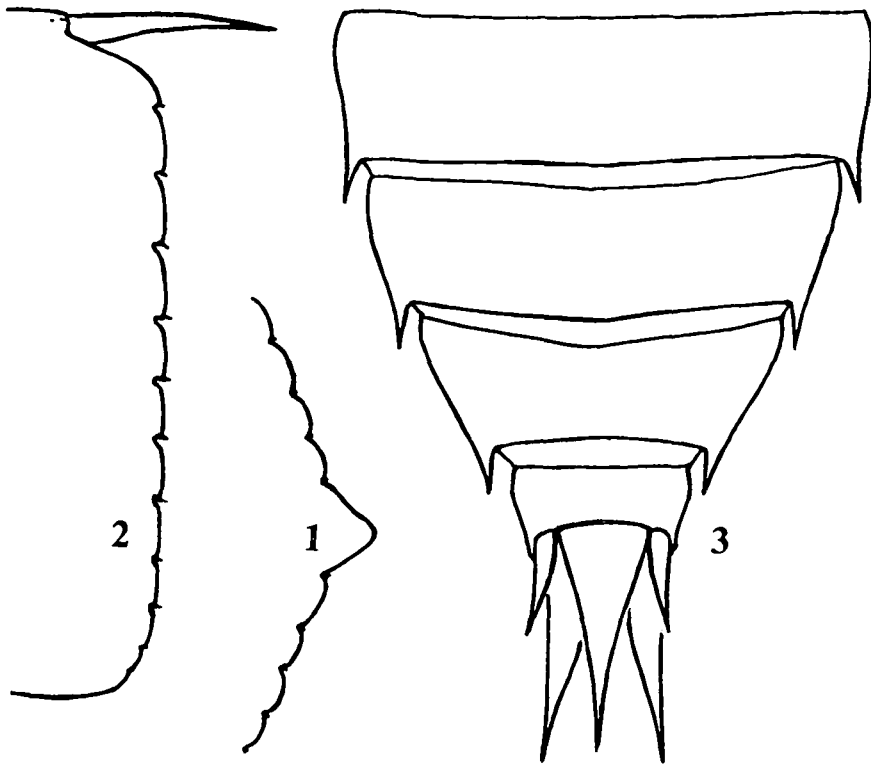
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Figs 1-3. *Orthetrum balteatum* LIEFTINCK, final instar exuvia: (1) median portion of premental ligula, ventral aspect; (2) distal margin of labial palp, frontal aspect; (3) abdominal segments 7-10 and anal pyramid, dorsal aspect.

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