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## **A new gomphid species from the Kimberleys in north-western Australia (Insecta: Odonata)**

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**A b s t r a c t :** *Austrogomphus mouldsorum* sp. n. (♀ holotype: Western Australia, E Kimberley, Emma Gorge, El Questro Station) is described, illustrated, diagnosed and discussed.

**K e y w o r d s :** Gomphidae, new species, Western Australia.

### **Introduction**

During a recent visit of the Australian Museum (Entomology) (AM), a single female of an undescribed gomphid species from the Kimberleys was discovered. More search in the collection of the Australian Museum and in other collections did not provide additional material of this species. As gomphids are rarely encountered in the Kimberleys, - one other species is still known from a single male collected in 1910 (SJÖSTEDT 1917). - and since the present species appears very enigmatic, with its affinities rather obscure, it is described below.

### ***Austrogomphus mouldsorum* spec. nov. (Figs 1-6)**

**P r i m a r y   t y p e :** Holotype ♀: Western Australia, E Kimberley, Emma Gorge, El Questro Stn, 28.12.1991, M.S. & B.J. Moulds (AM).

**Name:** Dedication to the collectors M.S. and B.J. Moulds.

**F e m a l e** (Figs 1-6)

**D i m e n s i o n s :** Hindwing 29.3 mm; abdomen 35.5 mm.

**H e a d** (Figs 1, 2): Labium yellow to yellowish brown; labrum pale yellow with wide subtriangular patch at base and at least sides of anterior margin black; anteclypeus pale yellow; postclypeus largely black with sides yellow; anterior frons yellow, with most of anterior margin black; top of frons yellow anteriorly, at least posterior half black; vertex black with large yellow central patch behind lateral ocelli; occiput largely black, with central portion of rear yellow; no particular occipital structures but sides of rear of occiput swollen; postgenae black above, continuous with black lateral portions of rear of occiput, and yellow on outer parts below evagination of eyes; postocciput black, with broad median process and rounded lateral lobes; antennae black; anterolateral face of mandibles yellow, apex black.

**P r o t h o r a x :** Anterior lobe of pronotum black with broad yellow anterior and lateral margins, median lobe black with central patch and sides yellow, anterior lobe black with only median portion yellow; episternum yellow; dorsal portion of epimeron black, ventral portion yellow; coxa and trochanter largely yellow; femur yellow on lower anterior surface, black on upper; tibia and tarsus black, claws blackish brown.

**S y n t h o r a x** (Figs 3, 4): Spiracular dorsum black; collar yellow, broken in midline; front of synthorax with dorsal carina yellow and broad yellow antehumeral stripe fused to collar below at its end, forming inverted „7“; yellow humeral stripe isolated at lower end and not broken below upper end which is not joined to upper end of antehumeral stripe; mesokatepisternum yellow; mesepimeron black marginally, striped yellow down centre, forming black line down mesopleural suture; metepisternum yellow except for black margin in front, forming black stripe along line of of intersegmental suture, enveloping metastigma but not continuous along intersegmental suture ventral to metastigma, and black line along metapleural suture, but without black line between metanepisternum and metakatepisternum; metepimeron yellow, narrowly black in front; poststernum yellow; subalar ridge black; coxae and trochanters yellow; mesofemur black, metafemur black with 2 yellow lines in basal half; rest of legs black; scuta and postscutella yellow, variably margined with black; mesoscutellum black anteriorly, yellow posteriorly; metascutellum greyish yellow.

**W i n g s :** Membrane hyaline; 12-13/10 antenodals; 8/8 postnodals; 3/2 crossveins between sectors of arculus proximal to fork of Rs; pterostigma broadly blackish brown around margin, greyish brown to brownish yellow centrally.

**A b d o m e n** (Figs 5, 6): Tergum 1 broadly yellow along midline and laterally, black in between; tergum 2 similar to 1, but yellow along midline widened at about 1/2 length, more strongly narrowed again at 3/4 length and black extending ventrally near base; terga 3-6 similar to each other, yellow with black pattern outlining yellow shovel-like image along midline and elongate yellow lateral patches; tergum 7 brownish yellow with black line each side along supplementary transverse carina and ill-defined spectacle-shaped black apical patch; tergum 8 from yellowish brown basally to brownish black apically; tergum 9, segment 10 and supra-anal plate brownish yellow; anal appendages yellow, acutely pointed; sterna 1 and 2 yellowish brown; sterna 3-8 largely black; sternum 9 with vulvar scale yellow and rest yellowish brown. Vulvar scale less than 1/2 length of sternum 9, broadly cleft to about 2/5 its length.

**M a l e** unknown.

**L a r v a** unknown.

**A f f i n i t i e s a n d d i a g n o s i s :** The most recent keys to the Australian Gomphidae (WATSON 1991, WATSON et al. 1991) fail to produce a clear generic identification of the present new species from the Kimberleys. When adding personal experience and classifying the species as a species of *Austrogomphus* SELYS, the above comprehensive revisions again do not provide a satisfactory subgeneric placement. *A. mouldsorum* sp. n. fits the subgenus *Xerogomphus* WATSON in colouration and size but its genitalia, with the vulvar scale only the size of *Armagomphus* CARLE or *Hemigomphus* SELYS do not agree with any subgenus of *Austrogomphus*. Apart from that, the thoracic colour pattern of *A. mouldsorum* is unique, and the occipital structure only resembles somewhat *A. mjobergi* SJÖSTEDT, a very small species with a very different colour pattern. To me it

appears possible that *A. mouldsorum* has closer ties with the eastern Australian subgenus *Pleiogomphus* WATSON even though all members of *Pleiogomphus* share a black pterostigma and terminal abdominal segments marked with black.

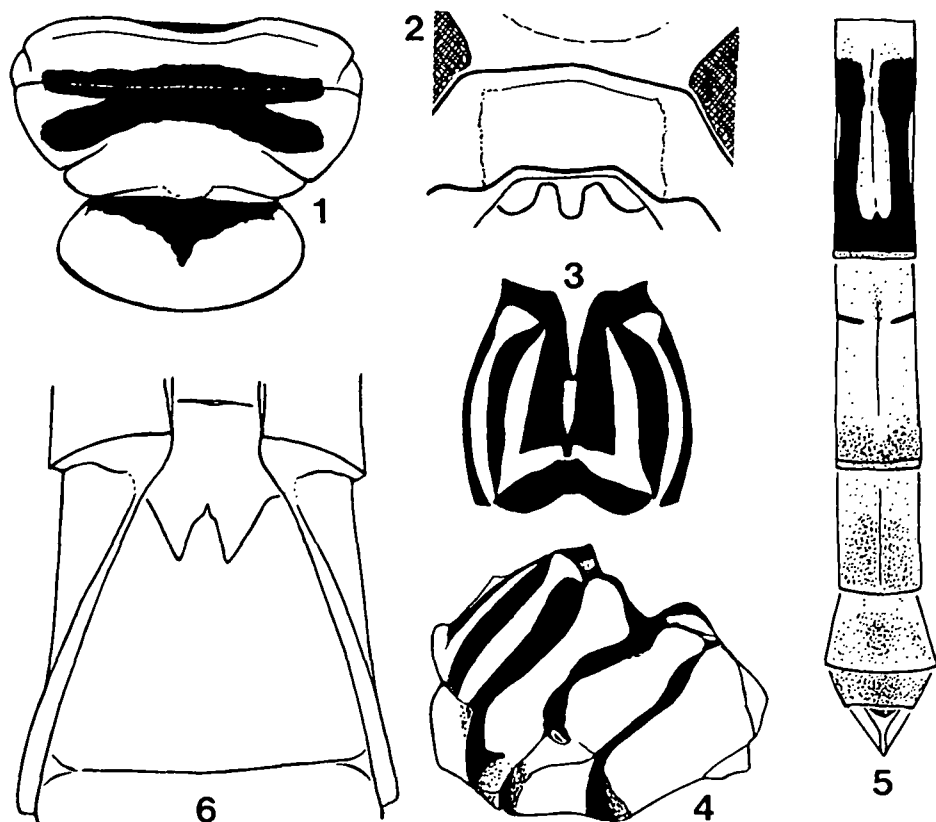
### Acknowledgements

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### References

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Figs 1-6: *Austrogomphus mouldsorum* sp. n., ♀: 1 – head, without eyes, frontal aspect; 2 – occiput and postocciput, dorsal aspect; 3 – front of synthorax; 4 – synthorax, lateral aspect; 5 – terminal abdominal segments, dorsal aspect; 6 – sternum 9 and vulvar scale, ventral aspect.

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