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Australian Marsh Beetles (Coleoptera: Scirtidae). 6. Genera *Calvarium* Pic, *Papuacyphon* Zwick, and *Ypsiloncyphon* Klausnitzer

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Abstract

The genus *Calvarium* Pic, 1918 is for the first time recorded from Australia. Six new Australian species are named and described. *Calvarium australiense* **n. sp.** and *C. superbum* **n. sp.** from the Northern Territory are typical representatives of the genus. A new subgenus, *Calvariellum* **n. subgen.,** is proposed for four species from NE Queensland which share general body structure with other *Calvarium* species but have different, less derived male genitalia: *Calvarium (Calvariellum) bellendenker* **n. sp.**, *C. (Calvariellum) cochlearifer* **n. sp.**, *C. (Calvariellum) hamifer* **n. sp.**, and *C. (Calvariellum) lancifer* **n. sp.**

Papuacyphon darwini **n. sp.** is described from SW Australia. The genus was previously known only from Papua New Guinea.

Species Group 3 of the genus *Ypsiloncyphon* Klausnitzer, 2009 is first recorded from Australia. It is endemic to the Australasian region. The Australian species *Y. angustus* **n. sp.**, *Y. brevis* **n. sp.**, *Y. katherinae* **n. sp.**, *Y. longus* **n. sp.**, *Y. pusillus* **n. sp.**, *Y. velatus* **n. sp.**, and *Y. virgulifer* **n. sp.** are described, the New Guinean species *Y. micans (*Klausnitzer, 1973) (= *Cyphon paramicans* Klausnitzer, 1973, **n. syn.**), *Y. mutilatus* **n. sp.**, *Y. ruficollis* **n. sp.,** and *Y. rugosus* **n. sp.** are described or redescribed from types, respectively. Three Australian species known only in the female sex are described under informal designations.

Key words: new subgenus, new species, new synonymy, taxonomy, Australasian region, endemism

Introduction

The Australian marsh beetle fauna is very diverse, as numerous genera and species are known (see Watts 2004, 2007, 2010, 2011, Zwick 2012, 2013a–c) but many more still need to be described. The present paper first records three genera previously unknown from Australia: *Calvarium* is widespread in the Oriental region and in Africa; *Papuacyphon* was known only from Papua New Guinea, and numerous species of *Ypsiloncyphon* occur in the Oriental region. All Australian species are new and known from limited numbers of specimens, some only from one sex. Several females that cannot be associated with species named from males are described but not formally named. The immature stages are unknown.

Methods and depositories

The study material consisted of dry specimens mounted on cards. It was borrowed from the museums listed below. Methods and equipment were the same as in previous studies (e.g., Zwick 2012, 2013 a–c). In brief, the abdomen of relaxed specimens was removed, cleared in cold KOH solution, washed in water, dehydrated in ethanol, dissected and mounted in Euparal on plastic slides pinned under the specimens. The preparations were studied with a WILD M5A dissecting microscope and a Leica DLMS compound microscope at magnifications up to 630x. Illustrations were prepared with the help of drawing tubes and/or a digital camera on the microscopes.

The lists of the material examined are sorted by states. The lists present verbatim copies of labels, several labels on a single specimen are separated by backslashes. Information added by myself is in square brackets, coordinates are mostly from Bonzle Digital Atlas of Australia (2012) and presented in decimal format.

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***Ypsiloncyphon* sp. C**
(Figs. 132, 133)

Material studied. 1♀: "Millstream WA, 8.Apr.1971, D.H.Colless" (ANIC).

Habitus. BL 1.80 mm, elongate, body damaged, BL/BW ~ 1.9. Brown, with yellowish legs and antennae.

Male. Unknown.

Female. T7 with moderately long apodemes, S7 without nipple, margin regularly arched. T8 with large plate with dispersed minute setae, basally well sclerotized, caudally increasingly soft, edge not visible. Apodemes very long. S8 long and narrow, apodemes strong, straight, anteriorly curved towards each other and merging. A flange of weaker sclerotization around this connection. Apodemes strong and dark over most of their length, caudally becoming abruptly transparent and bearing a microtrichial fringe (Fig. 132). Vulvar sclerite a poorly sclerotized rather large tube, both ends dividing into several soft lobes whose form is not well visible (Fig. 133). Dictyon lost during manipulation.

Note. This form possibly represents the female of *Y. virgulifer* **n. sp.** which was also taken near Millstream, but in a different year, not together with the present female.

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