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## A taxonomic review, new species and a key to species of *Platycoelus* Blanchard, 1843 (Coleoptera: Carabidae: Pterostichini)

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### Abstract

Based on the study of type material for species of *Platycoelus* Blanchard, 1843 significant changes to the current taxonomy of species included in this genus is required. *Pseggmatopterus politissimus* (White 1846) from New Zealand is found to be congeneric with *Platycoelus* species and so is a **new combination**. *Platycoelus irideomicans* (Tschitschérine 1890) **status novum**; *P. caledonicus* (Tschitschérine 1901) **status novum**; *P. sulcatulus* (MacLeay 1888) **status novum**; and *P. planipennis* (MacLeay 1871) **status novum**; each previously considered synonyms of *P. poeciloides* are each recognized as a distinct species. Five new species are described, four from Queensland, Australia: *P. chongheae* **sp. nov.**, type locality Iron Range National Park; *P. orion* **sp. nov.**, type locality Normanton; *P. brigalowphilus* **sp. nov.**, type locality Southwood National Park; and *P. politus* **sp. nov.**, type locality Coolool National Park. The fifth species described is *P. hermes* **sp. nov.**, type locality Aitape, Papua New Guinea. These changes and additions bring the total number of species in the genus to 19. A key and habitus images for all species is provided as are illustrations of the male genitalia for species where male specimens were available.

**Key words:** Australian beetles, descriptions

### Introduction

Carabid beetles of the genus *Platycoelus* Blanchard, 1843 are found in Australia, New Zealand, New Caledonia and New Guinea, but are only frequently collected in Australia. There, in season, and often tied to substantial periods of rain, they can be extremely common at lights, particularly the easily recognized, metallic green *P. mellie* Montrouzier, 1860. However, despite their commonness in Australian collections, the genus *Platycoelus* has not been treated taxonomically as a whole, leaving most specimens impossible to identify. The limits of the genus were broadly discussed by Darlington (1962) in his treatment of the New Guinea fauna. Therein he established most of the currently accepted generic synonymies. The New Caledonian species were covered by Will (2011), and subsets of the Australian species were listed, discussed or described in various publications (e.g. Moore, Weir, and Pyke 1987; Moore 1965; Sloane 1903). Britton (1940) noted that the monotypic New Zealand *Pseggmatopterus* Chaudoir, 1878 was very similar to species of *Platycoelus* and this fact was restated by Darlington (1962) and Moore (1965). However, no taxonomic action was taken and subsequent publications on the New Zealand fauna (e.g. Laroche and Larivière 2007) have maintained this as a distinct genus. Likewise, Sloane's species synonymies (1894; 1903) have been followed by subsequent catalogs without further study. Sloane (1894) was highly critical of Tschitschérine's (1891) treatment of Australian pterostichines and dismissed his new species as synonyms based on the very brief descriptions Tschitschérine published. Sloane's decisions for synonyms in *Platycoelus* were based on such descriptions and study of only some of the types, to which he only had occasional access to over several years. His study was not done using direct comparisons of the pertinent material. My recognition of many of the previously synonymized species as distinct is not due to significant differences in my idea of species from that of Sloane (i.e. lumper versus splitter), but rather it stems from me having access to all the types and additional specimens simultaneously, either as physical specimens or high-quality images, and by including male genitalia, a character system not used by Sloane. Since I have expanded on Sloane's study by the inclusion of additional