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# Taxonomic revision of Australian *Pristoderus* Hope (Coleoptera, Zopheridae)

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## Abstract

Australian species of the genus *Pristoderus* Hope (Coleoptera, Zopheridae) are revised, with the description of nine new species; *P. bellus* **sp. n.**, *P. chloreus* **sp. n.**, *P. cornutus* **sp. n.**, *P. duvalensis* **sp. n.**, *P. monteithi* **sp. n.**, *P. occidentalis* **sp. n.**, *P. occultus* **sp. n.**, *P. spinosus* **sp. n.** and *P. tomentosus* **sp. n.**, and the re-description of nine species transferred herein to *Pristoderus*: *P. elongatus* **comb. n.**, *P. leai* **comb. n.**, *P. pustulosus* **comb. n.**, *P. queenslandicus* **comb. n.** (*Sparactus*), *P. productus* **comb. n.**, *P. repandus* **comb. n.** (*Illestus*), *P. interruptus* **comb. n.** (*Ditoma*), *P. saccharatus* **comb. n.** (*Byrsax*), *P. zigzag* **comb. n.** (*Tarphiomimus*) and *P. phytophorus* **comb. n.** (*Dryptops*). A new synonymy is assessed for *Sparactus proximus* Blackburn = *Pristoderus interruptus* (Erichson) **syn. n.** Lectotypes are herein designated for *Sparactus costatus*, *S. elongatus*, *S. proximus*, *S. pustulosus*, *Illestus grouvellei*, *I. productus*, *I. repandus* and paralectotypes for *Sparactus costatus*. All Australian species are illustrated with high-resolution photographs and a key to Australian and Papuan species is given. Detailed locality records are given for each species and distribution maps for Australia are provided.

**Key words:** Colydiinae, Synchitini, new species, taxonomy, morphology, key, distribution, ecology

## Introduction

*Pristoderus* Hope (Zopheridae: Colydiinae: Synchitini) is a relatively large and diverse genus of Colydiinae with a southern hemisphere distribution. The genus includes 30 species from Australia, New Caledonia, New Guinea, New Zealand and Chile.

Recently *Pristoderus* has been redefined and redescribed and several colydiine genera have been synonymised under this genus (Ivie & Ślipiński 1990; Ślipiński & Lawrence 1997), thus characterised by an extraordinary morphological diversity. *Pristoderus* is distinguished from other southern hemisphere synchitine genera by the 11-segmented antenna with 3-segmented club and the absence of labial palps.

*Pristoderus* is morphologically similar to other southern hemisphere genera including *Allobitoma* Broun known only from New Zealand, an unplaced genus from New Caledonia whose taxonomic status is currently under study (Lord & Turco in prep.) and *Ablabus* Broun, another southern genus in the same tribe. Within the Australian fauna, *Pristoderus* and *Ablabus* can be confused due to the extreme morphological similarity of some species; nonetheless, the two genera can be distinguished by the number of segments of the antennal club (3 in *Pristoderus* and 2 in *Ablabus*). A phylogenetic analysis of *Pristoderus* and allied genera is currently being undertaken using molecular and morphological data and the placement of these species-groups of *Pristoderus* will clarify their taxonomic rank within the family.

*Pristoderu*s shows a striking variability in terms of morphological characters and two groups of species can be recognized: 1. *P. saccharatus* (Pascoe, 1870) group, composed of species bearing complex structures on the head, pronotum and elytra of both sexes, including crests, tubercles and indentations (Figs 1, 3, 5 and 7); 2. *P. interruptus* (Erichson, 1842) group, with species bearing comparatively low tubercles on pronotum and elytra and elytra lacking or with simple costae (Figs 2, 4 and 6).

In Australia the genus is mainly distributed along the eastern (*P. saccharatus* group) and southern coasts (*P. interruptus* group), with four species clearly associated with tropical rainforest, four found in temperate or subtropical rainforest and eight in dry sclerophyll forests, including tall shrublands dominated by eucalypts (mallee) or *Acacia* (mulga). In these environments *Pristoderus* can be found on or under the bark of living trees and rotting logs as well as in leaf and bark litter. The genus includes mycophagous species and a possible diet based on lichens has been proposed for some Papuan and Australian species (Ślipiński & Lawrence 1997).

The aim of this paper is to address the current taxonomic status and revise the Australian members of the genus *Pristoderus*, describing nine new endemic species and outlining the geographic distribution and habitat preference of all eighteen known species. This will enable future investigations on the possible use of Zopheridae (and other beetle families belonging to the saproxylic guild) in forest management assessment and planning as suggested by recent ecological works (Grove 2002a; b).

Even though the present paper focuses on Australian fauna, the key presented herein includes the single species endemic to New Guinea and New Britain, *Pristoderus phytophorus* (Samuelson, 1966).