



A remarkable new species of stone-dwelling Orthotylini (Heteroptera: Miridae: Orthotylinae) from Australia

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Abstract

A new genus and new species, *Harveycapsus dimorpha*, is described from Australia and its systematic placement in the nominotypical tribe of the subfamily Orthotylinae is discussed. The male and female genitalia of the species are described and illustrated, and the endosomal spicule theory is enhanced. The stone-dwelling habit of this species is discussed.

Key words: Taxonomy, classification, genitalia, sexual dimorphism, conservation

Introduction

Surveys of true bugs in Australia over the past 20 years has revealed a fauna of exaggerated species richness, much of it undescribed (e.g., Cassis et al. 2007; Cassis and Symonds 2008; Schwartz and Cassis 2003; Tatarnic 2009). For the plant bug family Miridae, it is also often the case that many of these new species cannot be assigned to any described genus (= classificatory impediment *sensu* Cassis et al. 2007). In line with this survey effort, the Australian Biological Resources Study has instituted a new national survey program—Bush Blitz (bushblitz.org.au)—of recent acquisitions to the National Reserve System. A key goal of this program is the discovery and description of new species. One of these recent surveys was carried out in the Avon Wheatbelt IBRA region, including a Bush Heritage Trust site, Charles Darwin Reserve, and the former pastoral leases, Lochada, Karara and Kadji Kadji reserves. Preliminary reports of these collections have produced surprising results, with hundreds of new species discovered not previously known to us (Symonds and Cassis 2009, 2010). This paper is the first in a series addressing the taxonomic impediment of true bugs in Australia that have been collected under the above Bush Blitz program.

Most of our collections have focused on arboreal sampling using standardised beating techniques (<http://research.amnh.org/pbi/description/collecting.html>). The species described in this paper, however, was collected under stones, by the Western Australian Museum arachnologist Mark Harvey. This new species is remarkable in terms of its sexual dimorphism, with the female exhibiting wing shortening, having staphylinoid forewings. In contrast, the male is macropterous, but was also found under the same stone in close proximity to the female.

The Miridae of Australia (Cassis and Gross 1995, Cassis et al. 2007; Cassis 2008) are poorly documented, with close to 90% of known diversity in collections undescribed. Recently, the senior author [GC] and Dr Randall T. Schuh of the American Museum of Natural History, have commenced a detailed overview of the mirid subfamilies Phylinae and Orthotylinae of Australia, under the US National Science Foundation program, the Planetary Biodiversity Inventory. The new taxon described in this work belongs to the nominotypical tribe of the subfamily Orthotylinae, and cannot be assigned to any known orthotyline genus. Its seemingly confounded classificatory position has prompted us to discuss orthotyline suprageneric classification and the morphological characters that it is currently based on.