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## **Illustrated Catalogue and Type Designations of the New Zealand Zopheridae (Coleoptera: Tenebrionoidea)**

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## Abstract

This paper provides a comprehensive catalogue of the New Zealand members of the family Zopheridae Solier (Coleoptera: Tenebrionoidea) in an effort to stabilize the nomenclature preceding extensive revisionary taxonomy within the group. A checklist of the 17 New Zealand zopherid genera and an account for each of the 189 species (by current combination) is provided. Type material for nearly all species was examined, and type specimens are designated herein (90 confirmed holotypes, 3 confirmed paratypes, 102 lectotypes, 280 paralectotypes). Images of all primary type specimens and labels examined are provided. *Pycnomerus sulcatissimus* Sharp, 1886 is a junior synonym and secondary homonym of *Pycnomerus sulcatissimus* (Reitter, 1880). One replacement name is proposed, *Chorasus buckleyi* **new name**, for *Chorasus subcaecus* (Broun), and 23 new combinations are given.

**Key words:** Coleoptera, Tenebrionoidea, New Zealand

## Introduction

Zopheridae (= Colydiidae) are cosmopolitan, litter-dwelling or saproxylic beetles that feed on dead plant material or fungi. Of a total of 190 genera and over 1,700 species, a disproportionate diversity (nearly half) is restricted to the Australo-Pacific region (Ślipiński and Lawrence 2010). Zopherids are well-represented in New Zealand in particular, constituting the fourth most speciose family (Leschen *et al.* 2003). Based on the current classification (Ślipiński and Lawrence 2010; Bouchard *et al.* 2011), the New Zealand fauna consists of species contained in both subfamilies: Zopherinae (*Pycnomerodes* Broun, *Pycnomerus* Erichson) and Colydiinae (all other genera). Despite their extraordinary diversity in New Zealand, the family has not been studied in great detail and no new species have been described since Broun (1923).

Several workers documented the New Zealand fauna fragmentally; six different workers described a total of 16 species prior to 1880; David Sharp described a large portion (33 species) from the mid-1870s through to the mid-1880s; the remaining species were described by the prolific Thomas Broun. In one of his earlier works on the fauna, Sharp (1876: 18) listed 24 species of Zopheridae and speculated that the number of known colydiids was sure to increase (“...highly probably even quadrupled”), and “...it is pretty certain that, like the Atlantic islands, New Zealand will prove to be very rich in species closely allied to *Tarphius* Erichson...I anticipate that some very interesting comparisons will be suggested when the New Zealand forms of the family are better known, as I hope may soon be the case.” Thomas Broun, a New Zealand beetle specialist, military man, and teacher, had initially sent specimens to the British Museum of Natural History. He was soon encouraged by Sharp to describe the fauna, and Broun did so impetuously (though not without some early objections by Sharp 1882: 73–76), describing large numbers of New Zealand Zopheridae (=Colydiidae) from 1880 until 1923. Altogether, Broun described 146 species of zopherids. Surprisingly, all but three (as secondary homonyms) of Broun’s names are currently valid, but revisions are needed for species validations and generic assignments. Description of New Zealand zopherids ended with Broun’s last publication in 1923. Thereafter, work on the fauna was nil, though species were catalogued or listed by Hutton (1904), Hudson (1923), Hetschko (1930), and Maddison (2010) with numbers of species from Hudson (1923) recapitulated in Watt (1982a), and Klimaszewski and Watt (1997).

Ślipiński and Lawrence (1997) presented a comprehensive generic revision and a key to the Australo-Pacific colydiine genera, providing a suitable starting point for focused studies of the New Zealand species. Most species can readily be identified to genus, though some difficulties are encountered, especially with smaller specimens and those covered by waxy excretions and encrustations (*e.g.* Figs. 39, 121, 158, 169). Closer examination of the

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