

# On some Silverfish Taxa from the Mildura Region (Inland South-eastern Australia) (Zygentoma: Lepismatidae: Ctenolepismatinae)

GRAEME B. SMITH  AND ANDREW MITCHELL 

Australian Museum Research Institute,  
Australian Museum, 1 William Street, Sydney NSW 2010, Australia

**ABSTRACT.** Five species of the genus *Acrotelsella* Silvestri, 1935 are described and locality records reported. The male of *Acrotelsella parlevar* Smith, 2016 is also described and the distribution of the species expanded to the Australian mainland. Molecular data (COI and 28S) are presented and discussed.

## Introduction

The Australian silverfish fauna is poorly known although some progress has been made in recent years. Smith (2017) reviewed the fauna noting that the genus *Acrotelsella* Silvestri, 1935 is to be found in all states including Tasmania with many undescribed species in existing collections. The genus is also known from south-east Asia, India and China, the Seychelles, Kenya, Madagascar, Somalia, Saudi Arabia, French Polynesia, Central and northern South America (Colombia, Venezuela, Ecuador and Panama) and the Caribbean. The systematics of the genus is poorly understood and it will be necessary to describe many more species before a coherent phylogeny emerges. Furthermore, the published descriptions of most species are quite old and do not contain details currently considered as necessary to define species adequately. Redescription of many of these species will be necessary and it is possible that some of the species described here may eventually be considered as synonyms of existing named, but inadequately or incorrectly described, species. It may also eventually become necessary to reconsider the status of genera near *Acrotelsella* such as *Hemitelsella* Smith, 2016 and *Qantelsella* Smith, 2015, however this should wait until further material, especially from Western Australia, is described and supported with molecular data.

The first author has collected silverfish in various parts of Australia over the last ten years. In many cases a leg was removed from at least one specimen from each collection event and stored at 4°C for eventual DNA extraction. The second author has since generated COI and/or 28S data on 470 of these specimens. This work concentrates on material collected in the semi-arid areas of south-western New South Wales and north-western Victoria around the regional city of Mildura but has also incorporated some specimens collected in other parts of Australia which have been shown to be of the same species. The use of slide mounted adult specimens from a wide geographical area (46 of which are also defined by molecular data) has facilitated an analysis of the variability of a number of morphological characters in the genus which might be useful for species delimitation when molecular data is unavailable.

This work describes five species attributed to the genus *Acrotelsella sensu lato* (*A. albicaudata* sp. nov., *A. auricoronata* sp. nov., *A. mallee* sp. nov., *A. tanni* sp. nov. and *A. thommoi* sp. nov.) all found in the area centred around Mildura, but with ranges extending into New South Wales, Queensland and South Australia. Molecular data (COI, 28S) is presented for all five species. The description of the Tasmanian species *A. parlevar* Smith, 2016 is revised, including now also that of the male, using material collected from several localities in New South Wales and Victoria.

**Keywords:** Zygentoma; Silverfish; Thysanura; taxonomy; new species; barcode; *Acrotelsella*

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**ORCID:** Graeme B. Smith, 0000-0003-1083-444X; Andrew Mitchell, 0000-0001-5022-5898

**Corresponding author:** Graeme B. Smith [le\\_gbsmith@optusnet.com.au](mailto:le_gbsmith@optusnet.com.au)

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