

Two new species of Heterolepismatinae (Zygentoma: Lepismatidae) from Far North Queensland

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ABSTRACT. The Australian silverfish fauna is still poorly known, requiring more extensive field surveys and descriptions, preferably supported by molecular data. Here two new species of *Silvestrisma* Molero-Baltanás *et al.*, 2025 (a genus recently split from *Heterolepisma* Escherich, 1905) are described from Far North Queensland, along with molecular data (COI, 28S) and compared to the closest Australian species *S. howense* (Womersley, 1942) and *S. cooloola* (Smith *et al.*, 2019) as well as *H. bisetosum* (Carpenter, 1916) which is reported from the Seychelles and Somalia. *Heterolepisma bisetosum* is transferred to *Silvestrisma* based on its close similarity to this group of Australian species.

Introduction

Australia has a fairly abundant silverfish (*Zygentoma*) fauna with 93 the 790 species described worldwide (Smith in press), of which only six are introduced peridomestic pests (Smith, 2017). Many undescribed species are held within various Australian museum collections and much of the material sent to, or collected by, the first author cannot be assigned to any of the described species, suggesting much is still to be discovered and documented. Species of Ctenolepismatinae and Heterolepismatinae are the most commonly encountered subfamilies in Australia. The Heterolepismatinae are an almost entirely southern hemisphere group with 24 of the 42 described species being Australian (mainland and surrounding islands), with the remainder mostly from oceanic islands, a few from South America as well as two from coastal Africa. Until quite recently all species were included in the genus *Heterolepisma* with the type species being *Heterolepisma pampeanum* (Silvestri, 1902) described from Argentina (Paclt, 1967). Smith and Mitchell (2019) created the genus *Maritisma* for two species, one known from an island in the Great Barrier Reef and the other from southern Japan which differed from the remaining *Heterolepisma* in having very long urosternal

combs including a medial comb on urosternite I and only a single pair of abdominal styli. Smith *et al.* (2021) created the genus *Visma* for 11 species which have trapezoidal thoracic sternal plates, only 1+1 single macrochaetae on the abdominal sternites (no medial combs) and three to six pairs of abdominal styli. The name *Visma* was later found to be preoccupied and has recently been replaced by the name *Vistrolepisma* Molero-Baltanás *et al.*, 2025. Furthermore, these authors redescribed the South American species *Heterolepisma andinum* (Silvestri, 1902) and, based on both molecular and morphological data, concluded that the Australian species of *Heterolepisma* should be moved to the new genus *Silvestrisma*, with *Heterolepisma michaelsoni* Silvestri, 1908 as its type species. The remaining non-Australian species were retained in *Heterolepisma* as their descriptions were generally inadequate to determine affinities and molecular data completely lacking. These authors also recognised that the genus *Silvestrisma* is likely to be further split due to several characters considered as variable in their analysis of the Australian species.

The subfamily Heterolepismatinae has been challenging for morphologists. In contrast to species of the Ctenolepismatinae where consistent morphological differences can usually be

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