



## *Zealandozetes southensis* gen. nov., sp. nov. (Acari, Oribatida, Maudheimiidae) from alpine cushions plant in New Zealand

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### Abstract

A new oribatid mite genus, *Zealandozetes* gen. nov. (Oribatida, Maudheimiidae), with type species *Zealandozetes southensis* sp. nov., is proposed and described based on adult and juvenile instars. It inhabits the soil under and around cushion-forming plants in the high-altitude alpine zone of two mountain ranges (the Pisa Range and The Remarkables) in the South Island of New Zealand. It is distinguished from species of *Maudheimia* by having pteromorphs reduced to pleural carinae, notogastral saccules, small pedotecta I, and both postanal porose area and *Ah* expressed as complex saccules. Juveniles are similar to those of *Maudheimia*, except the humeral organ of *Z. southensis* is cupule-like and gastronotic microsclerites are lacking. We give a revised diagnosis for Maudheimiidae and discuss both supportive and contradictory evidence for inclusion of *Zealandozetes*. Finally, we discuss endemism of *Zealandozetes* with reference to the knowledge of New Zealand biogeography and its oribatid fauna.

**Key words:** oribatid mites, Maudheimiidae, new genus and species, systematics, morphology, development, juvenile instars, New Zealand, alpine, cushion plants

### Introduction

The family Maudheimiidae (Acari, Oribatida, Ceratozetoidea) is monotypic, represented by the single genus *Maudheimia* Dalenius, 1958 with *Maudheimia wilsoni* Dalenius, 1958 as type species. Currently, this genus comprises four species, which all are endemic to the Antarctic region (Dalenius & Wilson 1958; Wallwork 1962; Coetzee 1997). An identification key was given by Coetzee (1997); selected data about biogeography, biology and ecology of some species were presented by Sømme *et al.* (1993), Marshall *et al.* (1995) and Marshall & Coetzee (2000).

During our studies of the oribatid mites of New Zealand, we discovered a new genus of Maudheimiidae, which was found in high frequency and abundance in the high alpine zone in The Remarkables and the Pisa Range in Central Otago, South Island. Herein we describe and illustrate *Zealandozetes* gen. nov., with *Z. southensis* sp. nov. as type species, based on adult and juvenile instars. We discuss placement of this genus in Maudheimiidae and update the diagnosis for Maudheimiidae.

### Material and methods

*Material.* Holotype (female), 11 paratypes (6 females and 5 males) and 24 juveniles (4 larvae, 8 protonymphs, 5 deutonymphs, 7 tritonymphs): New Zealand, South Island, Central Otago, The Remarkables, 45°3'38"S, 168°48'43"E, 1867 m a.s.l., in the soil and debris under *Raoulia* sp. cushion, 19 February 2014, collected by M.A. Minor.