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The genus *Notophthiracarus* of New Zealand (Acari: Oribatida: Phthiracaridae): three new species and a key to 24 described species

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Abstract

The genus *Notophthiracarus* (Acari: Oribatida: Phthiracaridae) was represented in New Zealand by 21 species prior to this work. In this paper, three new species of *Notophthiracarus* from New Zealand are described: *Notophthiracarus dugdalei* sp. nov. and *Notophthiracarus matatipiu* sp. nov. from Darran Mts., Tutoko Bench, and *Notophthiracarus whakau* sp. nov. from the Red Island, Mercury Islands. A key to all known species of *Notophthiracarus* in New Zealand is also provided.

Key words: Soil mites, Oribatida, Phthiracaridae, *Notophthiracarus*, new species, New Zealand

Introduction

The genus *Notophthiracarus* (Oribatida: Phthiracaridae) was erected by Ramsay (1966) with *Phthiracarus maculatus* Trägårdh, 1931 as its type species. The species of this genus are characterized by notogaster with 15 pairs of setae, rarely neutrichous; nine pairs of genital setae arranged in a single row, distance between g_6 and g_9 longer than that between g_5 and g_4 or g_3 and g_4 ; 5 pairs of setae on anoadanal plates present, setae ad_1 and ad_2 remote from paraxial margin, normal, minute or vestigial; setae v' on femora I (if present) short; setae l' on genua IV always present; setae ft'' on tarsi I normal. It is a relatively large genus of the family Phthiracaridae, with wide distribution except Holarctic Region. Up to now, more than 140 species were included in this genus (Subías 2012). Prior to this work, 21 species belonging to this genus have been recorded from New Zealand (Ramsay 1966; Niedbała 1989, 1993, 2000, 2006). During the first author's visit to Landcare Research in Auckland in April 2012, we identified three new species of this genus from New Zealand Arthropod Collection. The main purpose of this paper is to give detailed descriptions of the three new species. A key to all 24 species of *Notophthiracarus* known from New Zealand was also provided to facilitate identification.

This is the second of our series of papers on New Zealand ptyctimous mites. The first one deals with two new species of *Austrophthiracarus*, with a key to all six species of the genus recorded in New Zealand (Liu & Zhang 2013).

Methods

Measurements and descriptions are based on specimens mounted in temporary cavity slides that were studied using a light microscope equipped with a drawing attachment.

Terminology generally follows Niedbała (1992, 2000). The unit of measurement is micrometre (μm).

All holotype specimens are deposited in the New Zealand Arthropod Collection, Landcare Research, Auckland (NZAC). Paratypes are split between NZAC and Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Changchun (NIGA).