

## The first record of the family Parakalummidae Grandjean, 1936 (Acari: Oribatida) from Iran, with description of a new species

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### Abstract

A new oribatid mite species of Parakalummidae (Acari: Oribatida), *Neoribates (Neoribates) granulatus* **sp. nov.**, is described from Iran. The new species is characterized by the granulate body surface; long setiform sensilli, with slightly dilated head, pointed distally, finely barbed; a weak translamellar line; a number of muscular impressions in the anterolateral margins of the notogaster; pteromorphs with radiate veins; five pairs of thin, sparsely barbulate genital setae; aggenital setae present, and thick and barbulate epimeral setae. It is the first record of the family in Iran.

**Key words:** Acari, Oribatida, Parakalummidae, *Neoribates (Neoribates)*, new species, Iran

### Introduction

The oribatid mite family Parakalummidae was established by Grandjean (1936) to accommodate the genera *Parakalumma* Jacot, 1929, *Protokalumma* Jacot, 1929, and *Neoribates* Berlese, 1914. *Parakalumma* is considered today a subgenus of *Neoribates* and *Protokalumma* is a junior synonym of *Neoribates* (Subías 2012). Forty-five species and one subspecies in two genera and three subgenera are known as members of this family, according to Subías (2012). This family is diagnosed by the large, movable and auriculate pteromorphs, presence of true lamellae (in the form of narrow simple carinae), insertion of seta  $c_2$  on the notogaster (not on the pteromorphs) and absence of a subcapitular (mental) tectum. It is represented throughout temperate and tropical regions, usually in forest litters (Norton & Behan-Pelletier 2009).

In the course of a faunistic survey of oribatid mites of Shiraz, Fars province, southern Iran, one species of the family Parakalummidae belonging to the subgenus *Neoribates (Neoribates)* was collected. The main purpose of this paper is to describe and illustrate this new parakalummid species under the name *Neoribates (Neoribates) granulatus* **sp. nov.** Before this study there was no record of the family Parakalummidae from Iran.

### Materials and methods

During 2010–11, soil and litter samples were taken from the surface to a soil depth of 10 cm under different plants in various parts of Shiraz, Fars province, southern Iran. Oribatid mites were extracted from soil samples in Berlese-Tullgren funnels set over jars of 75% ethanol. Mites were removed, cleared in lactophenol and mounted in Hoyer's medium on glass microscope slides. The slides were placed in an oven at 45°C for two weeks and then the specimens were examined using a light