



<http://dx.doi.org/10.11646/zootaxa.3666.4.6>

<http://zoobank.org/urn:lsid:zoobank.org:pub:2AA48D56-D644-43A3-B1FF-FF853D7FD6A4>

Three new species of the genus *Neophyllobius* Berlese (Acari: Camerobiidae) from Southern and Southwestern Iran

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Abstract

Three new species of the genus *Neophyllobius* Berlese, 1886 are described and illustrated from Iran: *Neophyllobius edwardi* **sp. nov.** and *Neophyllobius seemani* **sp. nov.** collected from soil under oak trees; and *Neophyllobius dogani* **sp. nov.** collected from soil under *Astragalus* bushes. A key to the species of Iran is provided.

Key words: Predatory mite, phytophagous, plant litter, scale insect, Iran

Introduction

Members of the family Camerobiidae are commonly found in soil and plant litter, where they feed on small phytophagous insects such as the first nymphal instars of armored scale insects (San José scale, California red scale), false spider mites, eriophyoid mites and nymphs of scale insects (Bolland 1991; Gerson *et al.* 2003; Khanjani & Ueckermann 2002, 2006; Khanjani *et al.* 2010, 2011, 2012). This family is largely cosmopolitan (Bolland & Ripka 2000) and is found all over the world. In this paper three new species are added to the known species from Iran, increasing the number of Iranian species to 12.

Material and methods

The camerobiids described here were collected from Lorestan and Fars provinces from soil under oak trees and pomegranate leaves. The mites were collected with the aid of a stereomicroscope and mounted directly in Hoyer's medium. Setal nomenclature of the new species follows Kethley (1990) and Khanjani & Ueckermann (2006), and leg segment notations follow Fan & Walter (2011). The variation of paratypes is given in parentheses. All measurements are micrometers. The type materials are preserved as slide mounted specimens and the holotype female and at least one paratype are deposited in the Acari collection of the Department of Plant Protection, Faculty of Agriculture, University of Bu–Ali Sina, Hamedan, Iran and one paratype female will be deposited in the Arachnida Collection of ARC-Plant Protection Research Institute, Pretoria, South Africa.

Genus *Neophyllobius* Berlese

Type species: *Neophyllobius elegans* Berlese, 1886: 19.

Diagnosis. The members of this genus can be recognized easily by: 1. Stylophore with a pair of looped peritremes, 2. Idiosoma with 14 or 15 pairs (pdx absent or present) of long and stout lanceolate setae, often set on prominent tubercles, 3. Genital valves with two pairs of setae (Khanjani *et al.* 2012), 4. Anal valves with three pairs of pseudanal setae, 5. Tarsi I and II with a single solenidion (ω) which is opposite to proximal tactile setae (vs' and