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The *Dyobelba tectopediosa* species-group (Acari: Oribatida: Damaeidae) from the Southeastern USA, with a key to world species of *Dyobelba* and notes on their distribution

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Abstract

Species of the small oribatid mite genus *Dyobelba* (Damaeidae) mostly inhabit forest litter in the Northern Hemisphere. Herein we redescribe *Dyobelba tectopediosa* Jacot and propose four related species (*D. behanae* sp. nov., *D. crossleyi* sp. nov., *D. dindali* sp. nov. and *D. granulata* sp. nov.) that form an apparently monophyletic group characterized by unusual alveolate sculpturing on the prodorsum. Members of this group inhabit various forest types in the southeastern USA, particularly in the southern Appalachian Mountains. Descriptions are based only on adults, except all instars are described for *D. dindali*, including the full ontogeny of leg setation, using material from a laboratory culture. A diagnostic key to adults of the 11 known species of *Dyobelba* is given, along with summaries of their geographical and ecological distributions.

Key words: Appalachian Mountains, oribatid mite ontogeny, leg setation, new species, biogeography

Introduction

Dyobelba is a small genus of oribatid mites that was proposed by Norton (1978) with *Oribata carolinensis* Banks as type species. Currently, the genus comprises seven named species, all relatively rare, from North America (Jacot 1938; Banks 1947; Norton 1978; Norton & Ryabinin 1994) and East Asia (Wang & Norton 1993, Bayartogtokh 2000; Bayartogtokh *et al*. 2001; Enami & Aoki 2001), with a single species known from South America (Norton 1979).

One of the two species originally included in *Dyobelba* was D. *tectopediosa* (Jacot), and Norton (1978) noted that it was part of a species-complex that seems endemic to the southeastern USA. Our main objective is to redescribe *D. tectopediosa* and to propose four new species of this complex—called herein the *tectopediosa* species-group. Following the descriptions, we discuss aspects of the systematics, distribution and ecology of the genus, and present a diagnostic key to adults of known world species.

Materials and methods

The morphological terminology used below is mostly that developed over many years by Grandjean (e.g. 1952, 1960; see also Norton 1978). Unless noted differently, measurements are given as a range, with the mean in parentheses; they are based on a haphazard sample of at least 10 unsexed individuals, or on the avail-

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