



<http://dx.doi.org/10.11646/zootaxa.3637.3.2>

<http://zoobank.org/urn:lsid:zoobank.org:pub:AB22567C-9735-4809-BBE0-295A9E6D56B2>

Adoribatella, *Ferolocella*, *Joelia* and *Ophidiotrichus* (Acari, Oribatida, Oribatellidae) of North America

VALERIE M. BEHAN-PELLETIER

Invertebrate Biodiversity Program, Research Branch, Agriculture and Agri-Food Canada, K. W. Neatby Bldg., Ottawa, Ontario, Canada K1A 0C6. E-mail: Valerie.behan-pelletier@agr.gc.ca

Abstract

In North America, species diversity in the oribatid family Oribatellidae is primarily in the genus *Oribatella* Banks, but the genera *Adoribatella* Woolley, *Ferolocella* Grabowski, *Joelia* Oudemans and *Ophidiotrichus* Grandjean are also represented. I provide detailed diagnoses for these genera and the previously described species, *Adoribatella punctata* Woolley, known from Colorado and Oregon, USA, and Alberta, Canada, *Ferolocella tessalata* Berlese known from Missouri, Virginia, West Virginia, Georgia, Wisconsin, Ohio, Alabama, Arkansas and Texas, USA, and *Ophidiotrichus exastus* Woolley, known from North Carolina, Alabama, Missouri, Tennessee and Georgia, USA. I describe *Joelia appalachia* **sp. nov.**, based on adult specimens, from West Virginia. A key is given to distinguish adults of these genera from those of *Oribatella*. Character states shared by adults of Oribatellidae are discussed, the synonymy of *Gendzella* Kuliev with *Ferolocella* is rejected, and arguments are presented for movement of *Adoribatella* from Oribatellidae to the Ceratozetoidea.

Key words: Oribatida, Oribatellidae, *Adoribatella*, *Ferolocella*, *Joelia*, *Ophidiotrichus*, new species, North America, oribatid mites

Introduction

Oribatid mites of the family Oribatellidae Jacot, 1925 are represented in America north of Mexico by species in the genera *Adoribatella* Woolley, 1967, *Ferolocella* Grabowski, 1971, *Ophidiotrichus* Grandjean, 1953a and *Oribatella* Banks, 1895 (Marshall *et al.* 1987). *Oribatella* is the most species-rich genus, and in North America is found from temperate to subarctic latitudes, in habitats ranging from forests and grasslands to tundra, and in microhabitats such as soil and litter, fungal sporocarps, tree bark and canopies (Behan-Pelletier & Eamer 2010, Behan-Pelletier 2011, Behan-Pelletier & Walter 2012). As part of a revision of Oribatellidae for North America, the present paper addresses four genera with limited diversity in North America, but that are of considerable interest in defining family characters.

When described, the genera *Adoribatella*, *Ferolocella* and *Ophidiotrichus* were incompletely diagnosed, thus I expand their diagnoses below, and provide expanded, detailed diagnoses for previously described species: *Adoribatella punctata* Woolley 1967, *Ferolocella tessalata* (Berlese 1908) and *Ophidiotrichus exastus* Higgins, 1965. In addition, I describe *Joelia appalachia* **sp. nov.** from forest habitats in eastern North America; this represents the first record of *Joelia* Oudemans, 1906 from North America.

The genus *Tectoribates* Berlese, 1910, with described and undescribed species in North America, has been considered a member of Oribatellidae by some authors (Krivolutsky 1975, Mahunka & Mahunka-Papp 2004, Weigmann 2006) and of Achipteriidae by others (Balogh & Balogh 1992). Both placements are contentious (Marshall *et al.* 1987). The relationships of *Tectoribates* and descriptions of new species for North America are subjects of a separate study (Behan-Pelletier & Walter in prep.).