Zootaxa 3301: 1–33 (2012)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

First record of the littoral genus *Alismobates* (Acari: Oribatida) from the Atlantic ocean, with a redefinition of the family Fortuyniidae based on adult and juvenile morphology

TOBIAS PFINGSTL[1,2] & REINHART SCHUSTER[2]

[1] *Bermuda Institute of Ocean Sciences Inc. (BIOS), 17 Biological Lane, St. George's GE 01, Bermuda.*
E-mail: dr.tobias.pfingstl@gmail.com

[2] *Institute of Zoology, Karl-Franzens University Graz, Universitaetsplatz 2, 8010 Graz, Austria.*
E-mail: reinhart.schuster@uni-graz.at

Table of contents

Abstract

Alismobates inexpectatus sp.n., found on rocky shores of the archipelago of Bermuda is described from larva to adult. Additionally a detailed description of the immatures of *Fortuynia atlantica*, also known from Bermuda, is given. Based on adult and juvenile morphology the position of the genus *Alismobates* within the family of Fortuyniidae is clearly confirmed. Furthermore the definition of the family Fortuyniidae is revised and the classification of its members is discussed. The Fortuyniidae are best characterized by the presence of a "van der Hammen's Organ", whereas the configuration of cuticular channels differs remarkably between the genera *Fortuynia* and *Alismobates*. The juveniles of *A. inexpectatus* and *F. atlantica* Krisper et Schuster, 2008 exhibit conformity in most aspects, whereas porose areas associated with notogastral setae and singular pores in the lateral and posterior ventral folds leading into fine tracheal tubes are documented for the first time in fortuyniid immatures. These pores are part of a complex plastron system expressed in immatures to withstand tidal inundation. The present discovery of *Alismobates inexpectatus* is the first record of a member of this genus from Atlantic coasts and therefore represents a considerable extension of the geographic distribution of this taxon.

Key words: Bermuda, *Alismobates inexpectatus*, *Fortuynia atlantica*, biogeography, thalassobiontic

Introduction

The family of Fortuyniidae belongs to a small group of thalassobiontic oribatid mites that have managed to colonize intertidal habitats of rocky shores, boulder beaches and mangrove forests, leading a life on the edge of two daily colliding environments. At present the Fortuyniidae are consisting of three genera, *Fortuynia* van der Hammen, 1960, *Alismobates* Luxton, 1992 and *Circellobates* Luxton, 1992, and show a transoceanic distribution along shores of tropical and subtropical areas (Schuster 1989; Krisper & Schuster 2008). The majority of these species is

Accepted by H. Schatz: 21 Mar. 2012; published: 4 May 2012