## Article

## A new species of fossil oribatid mite (Acariformes, Oribatida, Trhypochthoniidae) from the Lower Cretaceous amber of San Just (Teruel Province, Spain)

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## Abstract

A new fossil species, *Trhypochthonius lopezvallei* **sp. nov.** (Trhypochthoniidae), is described based on one specimen preserved in amber from the San Just outcrop (Teruel Province, Spain) believed to be Albian in age. A comparison with Recent and fossil Trhypochthoniidae is given. A new name, *Sachalinbates*, is proposed to replace *Sachalinella* (a fossil oribatid genus described from Sakhalin Paleocene amber) which is preoccupied.

Key words: Mites, Oribatida, Trhypochthoniidae, Lower Cretaceous, San Just amber, Spain

## Introduction

Oribatid mites, with around 10,000 extant described species (Subías 2004) are common today in almost all terrestrial environments. However they are rare as fossils, especially in pre-Cenozoic strata, where they are usually overlooked due to their minute size. Oribatid mites have a long evolutionary history, with the oldest fossils coming from Paleozoic outcrops. Several genera are known from the Givetian (Middle Devonian) of Gilboa (Schoharie County, New York, USA) and from the Frasnian (Upper Devonian) of South Mountain (New York, USA) (Norton et al. 1988; Subías & Arillo 2002). Six Carboniferous genera have been described from the Brigantian of Fair Head, near Ballycastle, County Antrim, North Ireland, UK (Subías & Arillo 2002). Oribatid mites do not appear again in the fossil record until the Lower Jurassic: one species is known from the Sinemurian of Höganäs, Skåne, Sweden (Sivhed & Wallwork 1978), another species is known from the Callovian of South Cave, Yorkshire, UK (Selden et al. 2008) and five species are known from the Tithonian of Burea River Bank, Far East of Russia (Krivolutsky & Krassilov 1977). The earliest known fossil oribatid mites preserved in amber come from the Cretaceous: five species were described from Albian Spanish amber (Arillo & Subías 2000, 2002; Arillo et al. 2008, 2009, 2010) and two species are known from the Santonian amber of Taymir, Northern Russia (Bulanova-Zachvatkina 1974; Krivolutsky & Ryabinin 1976). All known pre-Cenozoic fossil oribatid mites are summarized in Table 1.

In this paper we describe a new species belonging to the family Trhypochthoniidae found in a Lower Cretaceous outcrop. The superfamily Crotonioidea has a cosmopolitan distribution, considering its seven currently recognized families (Norton & Behan-Pelletier 2009): Camisiidae, Nothridae, Crotoniidae, Nanhermanniidae, Trhypochthoniidae, Malaconothridae and Hermaniidae. Although poorly represented in the fossil record, it is one of the best known superfamilies from