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## Oribatid mites (Acari, Oribatida) in Soils of the Russian Far East

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### Abstract

The present paper reviews the taxonomic studies of the mite suborder Oribatida in the Russian Far East and gives a checklist of 596 species and subspecies in 228 genera, representing 84 families. The checklist includes data from more than 230 habitats of the Russian Far East from Chukotka to the Southern Primorye. In addition, a short historical and biogeographical review of oribatid mites study in the Russian Far East is presented.

**Key words:** Oribatida, beetle mites, checklist, biogeography, Russian Far East

### Introduction

Oribatid mites are one of the numerous and species-rich groups of soil mesofauna. They inhabit almost all types of soils on Earth. Oribatida is slowly evolving group, and some extant genera are over 140 million years old (Krivolutsky & Krasilov 1977). Because of the relatively stable habitat in soil, oribatid mites are often “the last relicts” of the indigenous fauna even in landscapes undergoing anthropogenic change. Studies of fossil and subfossil oribatid remains are important to assess species formation rates and evolution of mites, as well as to reconstruct the conditions of biogeocenoses development in the past.

The Russian Far East (the reported studies were carried out in the following entities of the Russian Federation: Kamchatkii, Primorskii and Khabarovskii kraia, Jewish autonomous region, Amurskaya, Magadanskaya and Sakhalinskaya oblasts, Chukotka) is located on the eastern edge of the Asian continent and covers an area of approximately 3.5 million km<sup>2</sup> (Figure 1). Various factors, such as region's location in the zone of transition from the continent to the ocean, its size, its mountain range, stretching in the meridional and latitudinal directions, significant volcanic activities, landscapes of historically different age and origin, diverse natural conditions produced the surprisingly diverse and original flora and fauna of this region. There are many local areas with unique microclimatic features, which make the region very special. Natural conditions and the history of landscape formation are reflected in the oribatid fauna and determine its ecological and geographical characteristics.

The Russian Far East, especially its southern part, is one of the centers of faunal diversity in Russia. This result from the fact that, even in periods of maximum glacial development the ice cover of the region was not solid to the south and only in the Northern Sikhote-Alin Mountains was there localized areas of mountain glaciers. Thus, refugia of preceding biogeocenoses of different ecology and genesis remained within newly biogeocenoses (Kurentsov 1965). In this newly formed environment these ecological “niches” served as centers for species dispersal. A present day areal boundaries of species varies considerably depending on the changes in physical and geographical factors (Kurentsova 1973).

The Turgai flora (Krishtofovich 1957) occupied the southern Far East in the Tertiary. Its numerous representatives have survived up to now in China, Japan, southeastern North America, South Korea and southern Primorskii krai. Changes in climatic conditions often reversed the direction of vegetation development. In some cases they gave advantage to elements of the Tertiary forest formation, which gave rise to the modern Manchurian forest flora. In other cases cold climate forest formations of North Eastern Siberia started dominating, or beneficial conditions were created for the Mongolia steppe elements, penetrating from the Baikal region and Mongolia

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