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A review of progress on the systematics and biology of the family Cheyletidae in China, with a checklist of the Chinese cheyletids*

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Abstract

This paper reviews the taxonomic research on the family Cheyletidae in China, with an updated checklist of 48 species belonging to 24 genera. The most important contributions to the Chinese fauna of these mites were made by Tseng Yi-Hsiung, who recognized and described ten species from Taiwan, Lin Jianzhen, who described seven species from Fujian, and Xia Bin, who added five new species. A few studies on the biology and ecology of Cheyletidae in China are briefly reviewed.

Key words: Cheyletidae, faunistics, biology, checklist, China

Introduction

The family Cheyletidae Leach, 1815 (Acari: Prostigmata) includes both free living predators and permanent parasites of vertebrates. Cheyletid mites have a worldwide distribution; free living predators occur on plants, in the soil, in stored products and vertebrate nests, while other species are strongly specific parasites of mammals and birds (Bochkov 2004).

In his monograph dealing with taxonomy of the family Cheyletidae, Volgin (1969, 1987) provided 54 genera arranged into 10 tribes, whereas Summers and Price (1970) counted 50 genera and close to 190 species in the family. Gerson, Fain and Smiley (1999) proposed a key to the subfamilies (tribes now) of the family Cheyletidae. Currently, the family Cheyletidae includes more than 370 species and about 73 genera (Bochkov 2004).

Bochkov and Fain (2001) presented the first phylogenetic analysis of the family. These authors established 13 tribes which perfectly correspond to the tribes proposed by Volgin (1969). Additionally, Fain & coauthors (Fain & Bochkov 2001a, b; Fain, Bochkov & Corpuz-Raros 2002) revised some the most specious genera of the free-living cheyletids.

Some cheyletid mites are considered to be biological control agents, and have been used in biocontrol projects to reduce the damage in stored-product (Gerson & Smiley 1990). Their bionomics and effects on prey species were studied during the last decades.

In the present paper, the author provides a historical overview of the research on the systematics and biology of the family Cheyletidae in China and list of cheyletids known in the Chinese fauna.

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