



Tarsonemidae of China: a review of progress on the systematics and biology, with an updated checklist of species*

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* In: Zhang, Z.-Q., Hong, X.-Y. & Fan, Q.-H. (eds) Xin Jie-Liu Centenary: Progress in Chinese Acarology. *Zoosymposia*, 4, 1–345.

Abstract

This paper reviews the research on the taxonomy, biology and control of mites in the family Tarsonemidae in China, with an updated checklist of 105 species belonging to 16 genera and 3 subfamilies. Major contributions to the Chinese fauna of the Tarsonemidae were made by Yang Qing-Shuan, Ding Ting-Zhong and colleagues in Shanghai, Lin Jian-Zhen and his colleagues in Fujian, Tseng Yi-Hsiung and Ho Chyi-Chen in Taiwan, and Yin Sui-Gong and his students in Liaoning. There have been relatively few studies on the biology and control of the Tarsonemidae in China and these are briefly reviewed.

Key words: Tarsonemidae, pests, faunistics, biology, control, mainland China, Taiwan

Introduction

The family Tarsonemidae is an important family of the Prostigmata displaying a great diversity of ways of life. Many tarsonemid species are fungivores, algivores and herbivores, others are parasites of insects and possibly symbionts of insects, and a few species are predators of other mites (Lindquist, 1986). Some phytophagous tarsonemids are pests of agricultural crops and members of the genus *Acarapis*—being endoparasites of the honey bees—are important pests in apiculture (Jeppson *et al.*, 1975; Delfinado & Baker, 1982).

The Tarsonemidae is a large family of worldwide distribution. More than 580 species belonging to some 43 genera are known in the world and many others are yet to be discovered (Lin & Zhang, 2002 and unpublished data). The family consists of three subfamilies: Pseudotarsonemoidinae, Acarapinae and Tarsoneminae. Most of the described species are distributed in the Tarsoneminae, which includes two large genera *Tarsonemus* (over 270 species) and *Steneotarsonemus* (over 70 species).

In this paper, we review the progress of research on the systematics, biology and control of the Tarsonemidae in China and provide an updated checklist of species. It is hoped that this review will help stimulate further studies of this important family of mites in China and also facilitate access to Chinese literature on the Tarsonemidae for researchers outside China.