



Tetranychidae of China: a review of progress, with a checklist*

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Abstract

This paper reviews the research on the family Tetranychidae in China, with an updated checklist of 212 species belonging to 28 genera. Major contributions to the Chinese fauna of the Tetranychidae were made by Wang Hui-Fu and her colleagues who discovered and described about 40 species, Ma En-Pei and Yuan Yi-Lan who discovered over 30 species, and Tseng Yi-Hsiung and his co-authors who added over 20 new species. There have been a lot of studies on the biology and control of the spider mites in China and recent studies are briefly reviewed.

Key words: Tetranychidae, spider mites, history, checklist, biology, control, mainland China, Taiwan

Introduction

The family Tetranychidae is a diverse group of over 1,200 described species of phytophagous mites, some of which are of great importance in agriculture and forestry (Bolland *et al.*, 1998). In China, Tetranychidae includes two subfamilies, 26 genera and 198 species according to an updated estimate (Migeon & Dorkeld, 2006).

The importance of spider mites in agriculture has greatly increased during the past 60 years. The two-spotted spider mite, *Tetranychus urticae* Koch, and the European red mite, *Panonychus ulmi* (Koch), are examples of species that have been given much attention worldwide (Helle & Sabelis, 1985). Morphological characters, such as the peritreme, aedeagus, tarsal claws and empodium, have been used in identifying the species of the Tetranychidae, and resolving the phylogenetic relationships between/among them (Gutierrez & Helle, 1985). In recent years, molecular data are increasingly being used to separate sibling species (Gotoh *et al.*, 1998; Navajas *et al.*, 2001; Xie *et al.*, 2006a; Gotoh *et al.*, 2007; T. Li *et al.*, 2009; Ros & Breeuwer, 2007) and understand phylogenetic relationships (Navajas *et al.*, 1996; Soller *et al.*, 2001). In this paper, we provide a review of the Tetranychidae in China, with an updated checklist. We hope that this review can contribute to further studies of this important family in China and also facilitate access to Chinese literature on the Tetranychidae for researchers outside China.