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Psoroptidia (Acari: Astigmatina) of China: a review of research progress*

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Abstract

Research history of the taxonomy, morphology, biology and ecology of the Psoroptidia in China until 31 Dec 2009 was summarized. A checklist of 70 species, 1 subspecies and 11 varieties, in 49 genera of 20 families and a checklist of mites unidentified to species of 8 families are provided.

Key words: Acari, feather mites, dust mites, Analgoidea, Pterolichoidea, Sarcoptoidea, China, Hong Kong, Taiwan

Introduction

The Psoroptidia is one of the two major groups (Acaridia and Psoroptidia) in the Astigmatina (=Astigmata) which was previously known as an order or suborder and recently ranked as a cohort within the suborder Oribatida (OConnor 2009). Most of its members are associated with birds and mammals, occuring on flight feathers and large coverts of the wings, sometimes in the down layer and on the skin, feeding on feather fragments, lipids, scaly skin debris, feather fungi and algae (OConnor 2009). Exceptionally, those of the family Pyroglyphidae are mainly associated with nests of birds and mammals, and some species such as the dust mites have adapted to the human dwellings (Krantz 1978; Proctor 2003).

According to an incomplete list, there are more than 2,022 species grouped in 667 genera in 53 families in this assemblage (Hallan 2005). The estimated number of species is more than 10,000 (Mironov 2003) or even more than 16,000 (Peterson 1975). The taxonomic study on this group in China is relatively backward. Most species discovered from the country were published in scattered journals by researchers from other countries. Up to date, the Psoroptidia of China is represented by about 68 species, 1 subspecies and 11 varieties, in 47 genera of 19 families. The species richness of Chinese Psoroptidia is only 4.0% of that of the world fauna. The aim of this paper is to provide an overview of the research on the Psoroptidia of China with a list of species and to facilitate the future studies of the Psoroptidia in China.

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