



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

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Abstract

This paper reviews the taxonomic research on the superfamily Eriophyoidea in China, with an updated checklist of 932 species belonging to 3 families, 10 subfamilies, 15 tribes and 187 genera, including a new name and a new combination: *Cosella yangmingshanis* nom. nov. and *Aceria celtis* (Huang, 2001) comb. nov., respectively. Hai-Yuan Kuang and his co-authors described 244 new species, Xiao-Yue Hong and his co-authors described 232 new species, Sui-Gai Wei and his co-authors described 122 new species, Jie-Liu Xin and his colleagues added 13 new species, Kun-Wei Huang and his colleagues described 229 new species from Taiwan, Tsan Huang, and his co-authors added 10 new species from Taiwan. Reports on the biology and control of the Eriophyoidea are relatively few in China, and these are briefly reviewed.

Key words: eriophyoid mites, history, checklist, new name, new combination, biology, control, China

Introduction

The superfamily Eriophyoidea, also known as the Tetrapodili or four-legged mites, are worldwide in distribution, occurring on a multitude of primarily perennial hosts. They are extremely small to moderate in adult body length (typically 100–150 µm) and have two pairs of legs. With fusiform or vermiform body shape, they are white or light yellow in colour. Eriophyoid mites cannot be seen by naked eyes. Such small organisms have received much less attention than insects and other large arthropods. As of 2003, nearly 3500 species in 301 genera are recognized worldwide (Amrine *et al.* 2003).

The taxonomy of eriophyoid mites in mainland China has developed rapidly in recent years thanks to the support of national research foundations and the hard work of three main research groups: Hai-Yuan Kuang and his colleagues, Xiao-Yue Hong and his students, Sui-Gai Wei and his collaborators. As of December, 2009, the Eriophyoidea includes 3 families, 10 subfamilies, 15 tribes, 187 genera and 932 species in China.

Some species of eriophyoid mites are pests of economically important crops in China. For example, the tomato russet mite, *Aculops lycopersici* (Tryon, 1917), damages epidermal cells of tomato, resulting in the curling of leaf edges, rusting of damaged tissues and plant death (Keifer *et al.* 1982; Hong *et al.* 2006). The citrus rust mite, *Phyllocoptruta oleivora* (Ashmead, 1979) is a