



Eriophyoid mites (Acari: Eriophyoidea) on Brassicaceae: a new species of *Metaculus* from Turkey and remarks on other species associated with brassicaceous plants

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Abstract

Populations of eriophyoid mites infesting Brassicaceae were surveyed and two species belonging to the genus *Metaculus* Keifer were found in an attempt to find enemies of some brassicaceous weeds in Turkey. A new species, *Metaculus lepidifolii* n. sp., was collected on *Lepidium latifolium* L., commonly known as broadleaved or perennial pepperweed, manifesting leaf curling and deformation. In addition, *Metaculus rapistri* Carmona, was collected and redescribed from *Isatis tinctoria* L., dyer's woad, as a new host record and report for the Turkish fauna. This species also causes leaf deformation. A key to all known species of *Metaculus* found worldwide is provided. Because only a few eriophyoid species have been recorded on brassicaceous vegetables and weeds so far and the mite taxonomy appears to be confusing, remarks are given about the current state of knowledge. The new genus combination for *Aculops lepidii* is also given.

Key words: Prostigmata, Eriophyoidea, taxonomy, weeds, candidates for biological control

Introduction

Turkey is characterised by a diverse climate, topography, geology and geomorphology, such as the wide range of altitudes and water bodies. This variability is the result of the overlapping of the Near Eastern and Mediterranean areas, such as the meeting of the Euro-Siberian, Mediterranean and Irano-Turanian phytogeographical subregions of the Palaearctic region. As a consequence, this area has great biodiversity and floral richness with more than 14,000 vascular species of which one third are native (Ekim 1993; Karagöz 2003; <http://data.gbif.org/welcome.htm>). Obviously, this biodiversity directly influences the related fauna.

As recently demonstrated by a survey of the eriophyoid mites of Turkey, mainly in the area around Ankara (Denizhan *et al.* 2006, 2007, 2008), a large number of new species could be potentially discovered in this transcontinental territory on native host plants.

The Brassicaceae includes many species of relevant significance as alien invasive weeds and eleven named eriophyoid species, all belonging to the family Eriophyidae, are currently known to be associated with them. However, no eriophyoid mites have been found on *Isatis tinctoria* L. and *Lepidium latifolium* L. which are noxious or invasive weeds in some areas of the United States of America. In addition, the taxonomic status of some of the eriophyoid species related to the Brassicaceae is confusing and requires further investigation which should focus on morphological, biological and, if possible, molecular differences between species according to recent research (de Lillo & Skoracka 2010).

The present paper attempts to seek out potential candidates for the biological control of brassicaceous weeds found in Turkey and summarises the current knowledge about the eriophyoid fauna of the plant family Brassicaceae.