



A new species of eriophyoid mite (Acari: Eriophyoidea: Eriophyidae) on *Leucadendron argenteum* (L.) R. Br. from South Africa

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Abstract

A new vagrant eriophyoid mite species, collected from plant material imported into the United Kingdom, is described and illustrated: *Aceria argenteae* n. sp. found on *Leucadendron argenteum* (L.) R. Br. (Proteaceae) from South Africa. A review of the eriophyoid mite species known from plants in the Proteaceae is also provided and recent findings of non-native eriophyoid mites in the United Kingdom are discussed.

Key words: Acari, Eriophyoidea, taxonomy, key, *Aceria kuko*, *Aculops fuchsiae*

Introduction

The Food and Environment Research Agency (Fera) provides an identification service for plant pests and diseases for both the Department for Environment, Food and Rural Affairs (Defra) and commercial customers. This paper presents a new species of eriophyoid mite (Acari: Eriophyoidea) found on a sample intercepted by the Plant Health and Seeds Inspectorate (PHSI) and sent to Fera for examination.

On 13 May 2009, a sample of *Leucadendron argenteum* (L.) R. Br. (Proteaceae Juss.) (silver tree, silver leaf tree, witteboom, or silwerboom) flower stalks was intercepted by Maureen Tierney (PHSI) at Heathrow Airport, Middlesex, England, from a consignment being imported into the United Kingdom from South Africa, and destined for display at the Chelsea Flower Show in England. The sample was initially taken because of the presence of a suspected non-native leaf-mining moth (Gracillariidae). In addition to the leaf mines, eriophyoid mites were found around the new foliage and unopened flower heads, but no host symptoms were observed. Specimens were identified to the genus *Aceria* Keifer 1944 (Eriophyidae); then compared to the original descriptions of the two other species of *Aceria* recorded from plants in the family Proteaceae; and then to the species of *Aceria* recorded from South Africa, but did not morphologically match any of them.

Material and methods

Specimens were initially collected directly from the plant material by examination under a Leica MZ APO low power binocular microscope at 10× to 80× magnification. Additional specimens were collected by soaking the plant material in 70% ethanol for at least one hour, and then filtering the solution through black filter paper in a Büchner funnel connected to a tap operated suction pump. The filter paper was then examined under the low power microscope and the mites were collected. Initial studies were made on specimens directly mounted into Heinz media (Heinze 1952) and placed on a heating block at 70°C until clear. Additional specimens were cleared in lactic acid and then mounted into Keifer's F-medium (Amrine & Manson 1996) due to the superior contrast and longevity provided by this mounting medium. The slides were then dried at approximately 40°C and then sealed with Glyptal. Specimens were studied, digitally measured and photographed using both a Zeiss M1 Imager and Zeiss A1 Imager microscope under differential interference contrast (DIC), with 10× eyepieces using 100× oil immersion lens, connected to a computer using Axiovision image analysis software. Identification to genus was made using a published key to the world genera of the Eriophyoidea (Amrine *et al.* 2003).