



Genus *Acalvolia* (Acari: Winterschmidtidae), with the description of a new species from the USA

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Abstract

The definition of the mite genus *Acalvolia* is revised. A new species, *Acalvolia americana*, with conidia of *Cladosporium* sp. in its gut, intercepted on orange from the United States is described. Currently the genus consists of only one species, and the new species is distinguished from that species by having smooth supracoxal setae, longer setae *sci* (ratio *sce*: *sci* = 2.5–2.7), and longer dorsal idiosomal setae c_1 , d_1 and e_1 (reaching to or overlapping the bases of setae in the next row).

Key words: Systematics, taxonomy, Sarcoptiformes, orange, North America

Introduction

The genus *Acalvolia* comprises of only one known species, *A. squamata* (Oudemans, 1909), described from a single deutonymph (= hypopus) from *Mus jerdoni* (Blyth) (Rodentia: Muridae) collected in Holland (Fain 1972; Fain & Knülle 1981¹). This species was subsequently discovered to be associated with house dust in Arnhem, Holland, and a bird's nest in Berlin, Germany (Fain & Knülle 1981). The biology as well as economical importance of this species is little known. An unnamed species of *Acalvolia* was found on leaves in association with nymphs of the citrus whitefly *Dialeurodes citri* (Ashmead) (Hemiptera: Aleyrodidae) infected by a fungus, *Aschersonia aleyrodis* Webber (Hypocreales: Clavicipitaceae). It was apparently developing and reproducing with *Asc. aleyrodis* as the only food source (Osborne & Landa 1992). The mite was considered mycophagous and important in dissemination of *Asc. aleyrodis* (Osborne & Landa 1992).

Mites of the genera *Oulenzia*, *Czenspinksia* and *Acalvolia* of the family Winterschmidtidae have frequently been intercepted at the borders of New Zealand, but none have been reported from within the country (Sirvid *et al.* 2010). There are only two records of Winterschmidtidae in New Zealand, *Calvolia* sp. listed by Spain and Luxton (1971) and *Psylloglyphus parapsyllus* described by Fain and Galloway (1993) as a new species from the nests of seabirds. The present paper describes a new species of *Acalvolia* intercepted on oranges from the United States.

Methods

Specimens were examined and measured with an interference-phase contrast microscope (Fan & Zhang 2007). All measurements are given in micrometers (μm), and illustrations made using a drawing tube attached to a Nikon interference-phase contrast microscope. Images were taken using a Zeiss AxioCam HRc camera attached to a Zeiss interference-phase contrast microscope and edited with Auto-montage and Photoshop 7.0.1 software.

1. The original locality of the species published by Oudemans (1909) was Semarang, a city on the north coast of the island of Java, Indonesia. Fain and Knülle (1981) considered that the locality was erroneously reported because they found a note “verdwaald” (=“astray”) on the type slide along with Oudemans' five new specimens from Arnhem, Holland.