



A new species of whitefly (Hemiptera: Aleyrodidae) and its parasitoid (Hymenoptera: Aphelinidae) from desert lavender in California

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Abstract

Aleuropleurocelus hyptisemoryi Gill **sp.n.** (Hemiptera: Aleyrodidae) and its parasitoid, *Encarsia heratyi* Polaszek **sp.n.** (Hymenoptera: Aphelinidae) are described. Both species are known so far only from desert lavender (*Hyptis emoryi*) in California, but are likely to be more widely distributed. *Encarsia heratyi*, a member of the *Encarsia parvella*-group, is separated from apparently closely-related species in that group.

Key words: *Aleuropleurocelus*, Aphelinidae, Chalcidoidea, *Encarsia*, *Hyptis emoryi*, molecular taxonomy, ribosomal DNA sequence, whiteflies

Introduction

During surveys of vegetation in the Philip L. Boyd Deep Canyon Desert Research Center in California (<http://deep-canyon.ucnr.org/>) in March 2009, populations of a whitefly with dark-bodied puparia (Hemiptera: Aleyrodidae) were found to be abundant on desert lavender, *Hyptis emoryi* (Lamiaceae). Up to a month after collection and storage in dry, sealed containers, several parasitoid wasps emerged from some of the whitefly puparia. J.H. Martin (Natural History Museum, London) identified the whiteflies as an undescribed species of *Aleuropleurocelus* Drews & Sampson. This material was forwarded to the second author for comparison with conspecific material from previous collections, and with related species. The parasitoids were identified as an undescribed species of *Encarsia* (Hymenoptera: Aphelinidae) belonging to the *parvella*-group. Both species are described below.

Hemiptera: Aleyrodidae

Aleuropleurocelus Drews and Sampson

Martin & Mound (2007) listed 12 described species in the genus, mostly endemic to California and the American southwestern deserts but also known from Mexico, Florida and Brazil. Dooley (2010) recently described another species, *Aleuropleurocelus nevadensis* from the U.S. Several undescribed species are known from California and Nevada in the U.S.A., and Martin (2005) listed 10 undescribed species from Belize. Eight of the thirteen described species, from California and Mexico, were described in works by Sampson (1945), Drews & Sampson (1956, 1958) and Sampson & Drews (1941). Four of the twelve species were originally assigned to the European genus *Tetralicia*, but these have been placed now in *Aleuropleurocelus*. The similarities between these two genera are based primarily on the position of the true margin of the puparia (4th instar), which is rolled down and inwards, and is not visible in dorsal view. Martin (2005) discussed current ideas on the relationship between *Aleuropleurocelus* and *Tetralicia*. The new species described here was found in southern California at several desert localities, all