



A new species of *Bemisia* (Hemiptera, Aleyrodidae) from New Zealand

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Abstract

Bemisia flocculosa sp. n. is described from *Melicytus obovatus* (Violaceae) trees in New Zealand. It is similar in structure to *B. tabaci* and also to *B. capitata*, differing from the former in its wax producing habit, the associated wax producing callosity areas, and lingula shape, and from the latter in the lingula shape and lack of capitate setae. In the production of white dorsal wax secretions it resembles species previously placed in *Lipaleyrodes*, but *B. flocculosa* produces waxes along the discal/submarginal arc and in the center of the disc, rather than on the submarginal areas.

Key words: *Bemisia flocculosa*, *Bemisia tabaci*, *Melicytus obovatus*, New Zealand, new species

Introduction

In March 2004, Dr Nicolas Martin discovered a novel whitefly heavily infesting *Melicytus obovatus* in the Christchurch Botanic Gardens, New Zealand. It was recognized as a *Bemisia* or *Lipaleyrodes* species. As the novel species is significantly distant systematically from the eight known New Zealand endemic whitefly species (*Aleyrodes*, *Asterochiton* and *Trialeurodes*), and initially was found only in and around the Botanic Gardens, it was considered a potential exotic species and a biosecurity investigation conducted. That investigation determined that the host plants of the whitefly are confined to the endemic New Zealand plant genus *Melicytus*. This, and subsequent collections from elsewhere in Canterbury (Rosa Henderson, pers. comm. August 2007), indicated that the novel whitefly probably is a New Zealand endemic.

After a careful search of the literature, and comparisons of morphology with other similar species, it was determined that this whitefly was an undescribed species. Morphologically it is similar to certain species in the genus *Bemisia*, and the living specimens have a similarity to some species formerly placed in the genus *Lipaleyrodes* that produce white waxy secretions. The new species is described here so that New Zealand authorities can distinguish it from the exotic *Bemisia* species established in New Zealand. Moreover, this species will be included in a forthcoming morphological study by the first author of the genus *Bemisia* and its similar or related genera.

Bemisia flocculosa sp. n.

Puparium (4th instar nymph; Figs. 1 & 6)

Habitus: Oval or elliptical, widest at a point opposite meso/meta-thoracic suture. Dimensions variable; length and width of holotype 830 microns long by 620 microns wide; paratype specimens 810–1020 microns long (avg. 930 microns) by 580–790 microns wide (avg. 704 microns). Body flat, color light yellowish brown. Dorsum with noticeable wax secretions consisting of white flocculent wax in a row on each side between the dorsal disk and the inner edge of the submargin and extending from the head posteriorly as far as the vasiform orifice, and a single row along the abdominal midline and thorax. The dorsal wax secretions appear serrated due to the placement along the segmental divisions, less wax appearing at the division lines. In addition to the flocculent wax, seta-like transparent