



## Sexual dimorphism among species of *Aleurocanthus* Quaintance & Baker (Hemiptera: Aleyrodidae) in Taiwan, with one new species and an identification key

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### Abstract

Sexual dimorphism is recorded among the puparia of six species of *Aleurocanthus* from Taiwan, including *Aleurocanthus lauriphaga* sp.n. from *Cinnamomum osmophloeum*. A key is provided to the puparia of seven species of this genus known from Taiwan, with illustrations of immature stages and the adult male and female of the new species. The flocculent wax secretion pattern in the puparia of this new species is atypical amongst *Aleurocanthus* species. Newly recorded from Taiwan is *A. citriperdus* Quaintance & Baker, and the record of *A. spinosus* (Kuwana) from Taiwan is discussed. A list of recorded host plants of *Aleurocanthus* species from Taiwan is provided.

**Key words:** Aleyrodidae, *Aleurocanthus*, dimorphism, new species, key

### Introduction

The genus *Aleurocanthus*, erected by Quaintance & Baker (1914) for 11 species with stout dorsal glandular spines and an elevated vasiform orifice, is an Old World genus that currently includes 78 species (Martin & Mound, 2007). In the study reported here, seven species in this genus are now recognised from Taiwan of which one is described as a new species. The quality of the descriptions and drawings of *Aleurocanthus* species from the Oriental Region vary considerably, and almost no information is available on sexual dimorphism and variation across puparia. Dubey & Sundararaj (2004) re-described puparial morphology of some of the species, but a few species still need further study, such as *A. singhi* Jesudasan & David (1991). The number of dorsal spines has been used for distinguishing *Aleurocanthus* species, but has remained unclear for the puparia of *A. banksiae* (Maskell). *Aleurocanthus chieng-maiensis* Takahashi is another example of extreme sexual dimorphism (pers. comm. Jon Martin, xi.2011). The sexual dimorphism recorded here for six species indicates that more detailed observations are needed on *Aleurocanthus* species from the Oriental Region that have been described as differing in a small number of spines.

Some previous studies on other genera have recorded dimorphism, involving size of puparia and length of antennae, such as *Chitonaleyrodes* Martin (1999). Puparial dimorphism is recorded here in *Aleurocanthus cinnamomi*, *A. citriperdus*, *A. lauriphaga* sp. nov., *A. spiniferus* and *A. woglumi*, involving puparial size and number of dorsal spines. The original descriptions of these species were clearly based on female puparia. In all these species, the male puparia are smaller and possess fewer dorsal spines than female puparia. Moreover, the submarginal spines are sometimes doubled only on one half of the puparium. Although the number of dorsal spines in these six species varies between male and female puparia, the number on the cephalothorax of female puparia was found to be constant within species, and hence is used here for key characteristics. Dimorphism was also noticed in the third instars of *A. cinnamomi*, *A. citriperdus* and *A. woglumi*; female third instars possessed an extra pair of dorsal spines in contrast to male third instars. In *A. lauriphaga*, female puparia are larger than male puparia, with 27–29 pairs of dorsal spines in males but 39–40 pairs in females, although the length of the antennae differs little between the sexes. In this species, male and female third instars both possessed 14 pairs of spines, but the moulting sutures and abdominal rhachis were clear in females (Fig. 36). These observations indicate that many of the species described from the Oriental Region need more detailed study to determine the extent of their dimorphism.