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Two new *Aprostocetus* species (Hymenoptera: Eulophidae: Tetrastichinae), fortuitous parasitoids of invasive eulophid gall inducers (Tetrastichinae) on *Eucalyptus* and *Erythrina*

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Abstract

Two closely related new species of *Aprostocetus* Westwood (Hymenoptera: Eulophidae: Tetrastichinae) are described as fortuitous parasitoids of invasive gall inducers in two other genera of Tetrastichinae, *Leptocybe* Fisher & LaSalle and *Quadrastichus* Girault. *Aprostocetus causalis* La Salle & Wu is a parasitoid of *Leptocybe invasa* Fisher & La Salle on *Eucalyptus* spp. (Myrtaceae) in China and Thailand, and *A. felix* La Salle, Yang & Lin is a parasitoid of *Quadrastichus erythrinae* Kim on *Erythrina* spp. (Fabaceae) in Taiwan. *Epitetrastichus nigriventris* Girault, 1913 is removed from synonymy from *Aprostocetus gala* (Walker), and treated as the valid species *A. nigriventris* (Girault).

Key words: *Leptocybe invasa*, *Quadrastichus erythrinae*, Myrtaceae, Fabaceae

Introduction

Fortuitous biological control has been defined as "cases where biological control has occurred as a result of the accidental immigration and establishment (ecesis) of an exotic natural enemy or conversely ecesis of an exotic pest which is then attacked and controlled by indigenous natural enemies" (DeBach 1974: 64). DeBach (1974) pointed out that examples of fortuitous biological control often happen accidentally and go unheralded. Indeed, although this may be an extremely important phenomenon in biological pest control (DeBach 1974; La Salle 1993), there are relatively few documented cases in the literature.

DeBach (1974) pointed to several examples of fortuitous biological control of armoured scales (Hemiptera: Diaspididae) that could be attributed to parasitoids in *Aphytis* Howard (Hymenoptera: Aphelinidae). Bennett & Noyes (1989) reported the fortuitous biological control of spiraling whitefly, *Aleurodicus dispersus* Russell (Hemiptera: Aleyrodidae), in Florida by *Aleuroctonus vittatus* (Dozier) (Hymenoptera: Eulophidae, as

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monitoring the invasive *Erythrina* galling wasp. Gene-Shen Tung and team members offered help in field studies. Michael Gates, Systematic Entomology Laboratory, ARS, USDA, kindly supplied photographs of specimens of *Aprostocetus gala*. Gary Gibson and two unknown reviewers supplied helpful comments and suggestions to improve the quality of the manuscript.

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