



***Kiwigaster* gen. nov. (Hymenoptera: Braconidae) from New Zealand: the first Microgastrinae with sexual dimorphism in number of antennal segments**

J. L. FERNANDEZ-TRIANA¹, D. F. WARD² & J. B. WHITFIELD³

¹Biodiversity Institute of Ontario, University of Guelph, Guelph, Ontario, N1G2W1, Canada. E-mail: jftriana@uoguelph.ca

²New Zealand Arthropod Collection, Landcare Research, Private Bag 92170, Auckland, New Zealand.

E-mail: wardda@landcareresearch.co.nz

³Department of Entomology, University of Illinois, Urbana, IL, 61801 USA. E-mail: jwhitfie@life.illinois.edu

Abstract

A new and morphologically unusual genus of microgastrine Braconidae, *Kiwigaster* Fernandez-Triana, Whitfield and Ward, with one new species, *K. variabilis* Fernandez-Triana and Ward, is described from New Zealand, where it is widespread. A number of morphological features mark it as unique among Microgastrinae, the most striking being the males and females having different numbers of antennal flagellomeres (females 17, males 18). Other unusual characters suggest this may be the most early-diverging extant species of the subfamily, although comprehensive phylogenetic analyses have yet to be conducted. Nothing is yet known about its host(s) or other aspects of its biology.

Key words: Hymenoptera, Braconidae, Microgastrinae, New Zealand, sexual dimorphism, antennae

Introduction

The Hymenoptera fauna of New Zealand is unusual, particularly in its high diversity of Diapriidae and Mymaridae, near absence of sawflies, and depauperate Aculeate fauna (Valentine & Walker 1991; Early *et al.* 2001; Ward 2011; Ward & Goulet 2011). Endemism is high at the species level, but also present are higher-level endemic taxa; including the family Maamingidae (Early *et al.* 2001).

It is generally accepted that New Zealand split from the remnants of Gondwana c. 80 million years ago (mya), and by 55 mya the modern Tasman Sea was formed (Li & Powell 2001; McLoughlin 2001). During the early Tertiary, New Zealand slowly subsided and by the late Oligocene (25–22 mya) the land had reduced to a very small proportion of its current size; often referred to as the ‘Oligocene Drowning’ (Fleming 1979; Cooper & Cooper 1995). More recently, Pleistocene glaciations covered much of the present day South Island, restricting taxa to relatively small refugia in isolated areas, and having a profound effect on the distribution of species (Marra & Leschen 2004; Buckley *et al.* 2010).

Because of New Zealand's long isolation and turbulent geological history its fauna is of particular interest. Relictual groups are also important both for phylogenies of Hymenoptera, and also for biogeographical patterns and timelines, for example, the Ambositrinae (Diapriidae) (Naumann 1988).

The literature of the New Zealand Microgastrinae is meagre. At present, the known fauna (18 species – Yu *et al.* 2005) consists predominantly of species purposefully introduced for biological control of lepidopterous pests in the agricultural/horticultural industry. Very few endemic species are described, particularly when the Lepidoptera fauna of New Zealand is estimated at over 2000 species (Dugdale 1988). As part of ongoing studies on the New Zealand fauna of Microgastrinae we found a braconid species that is unique among all known microgastrines in having a different number of antennal segments in the males and females. Other unusual characters suggest this may be the most early-diverging extant species of the subfamily, although comprehensive phylogenetic analyses including this species have yet to be conducted. In this paper we describe the new genus and species and discuss aspects of the phylogeny of the group.