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New species and redescriptions of the New Zealand genus *Exsul* Hutton (Diptera: Muscidae: Coenosiinae)

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Abstract

Exsul Hutton (Diptera, Muscidae) is revised and the genus diagnosis is enlarged. The female of *Exsul singularis* Hutton is described for the first time. The male and female terminalia of all species are described and illustrated. *Exsul alfreDOI* sp. n. is described and illustrated and compared with the other known species. A key to separate the species is given.

Key words: morphology, taxonomy, Australian region, Limnophorini

Introduction

Exsul Hutton, 1901 is a small genus of large and atypical muscid flies, endemic to New Zealand, found in alpine regions of Westland and Fiordland (Patrick 1996). It is known from two species: *E. singularis* Hutton, 1901 and *E. tenuis* Malloch, 1923 (Pont 1989) (Fig 1). Its singular appearance evoked popular names as bat-winged flies or cannibal flies, although there is no evidence that cannibalism is a rule in its biology (Patrick 1996).

Hutton (1901) described the genus based only on the male of *E. singularis*. Stein (1901) did not include *Exsul* in his catalogue probably because he had doubts about its position among the Muscidae. Malloch (1923) described both sexes of a second species, *E. tenuis*, and suggested a proximal relation between *Exsul* and *Lispoides* Malloch, 1920. Hennig (1965) doubted the position of this so atypical genus among the Muscidae, and considered it as *incertae sedis*. According to the current classification (Pont 1989), *Exsul* is located among the Coenosiinae subfamily, despite its atypical characters.

Malloch (1923) called attention that the genus diagnosis should be enlarged to include the second species. The examination of the present material confirmed the need to expand the genus diagnosis, especially regarding the number of dorsocentral setae.

This paper adds information on the original diagnosis of the genus, describes a new species —*E. alfreDOI* sp. n. (Fig 1), the female of *E. singularis*, and illustrates male and female terminalia of all species.

Material and methods

The studied material belongs to Auckland Museum collection (AMZN, Auckland, New Zealand) and National Museum of Natural History (NMNH, Washington, United States of America) and was collected on the southwest of the South Island of New Zealand.

The dissected terminalia were clarified in 10% potassium hydroxide solution for 24 hours. They were then dissected in glycerol, illustrated, stored in a microtube with glycerol, and attached to the pin bearing the specimen. The nomenclature followed McAlpine (1981) and Stuckenberg (1999) for postpedicel.