



Studies on the Canacidae (Diptera), subfamily Apetaeninae. II. A review of the world subgenera of *Apetaenus* Eaton, with a special reference to the Australian and New Zealand species

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Abstract

A review of the world subgenera of *Apetaenus* Eaton is proposed, giving, contextually, a particular emphasis to the species from the Australian and New Zealand subantarctic archipelagos. The taxonomic status of *Apetaenus watsoni* Hardy is changed to *A. litoralis watsoni* Hardy **n. stat.** In this connection, *Apetaenus litoralis* Eaton is subdivided into three subspecies, of which *A. litoralis marionensis* **n. ssp.** from Marion Island (Kerguelen Biogeographical Province) is herein described. Furthermore, the genus *Apetaenus* is subdivided into three subgenera, namely *Apetaenus* s. str. Eaton, *Listriomastax* Enderlein, and *Macrocanace* Tonnoir & Malloch. A key to subgenera is proposed. With this second contribution the subfamily Apetaeninae has been reviewed worldwide, except for the subantarctic territories of South America, including the southernmost archipelagos, from which no species have hitherto been reported in the literature. Finally, some hypotheses on the evolution and dispersal of these flies around Antarctica are also proposed.

Key words: Canacidae, Apetaeninae, Australia, New Zealand, subgenera of *Apetaenus*, subspecies of *Apetaenus litoralis* Eaton, new subspecies

Introduction

Apetaeninae is a monotypic subfamily of Canacidae (D. K. McAlpine, 2007) including the only genus *Apetaenus* Eaton. These flies are endemic in the cold, sometimes cool-temperate, rocky seashores of the subantarctic islands (figs. 13, 15). Like the Coelopidae (kelp flies) they share the same kind of habitat which is often typified by the presence of thick heaps of brown algae regularly washed up by the waves on the rocky, intertidal zone. However, these flies also occur in the supralittoral zone, among tussock grasses or more or less strictly associated with penguin colonies and other sea birds (fig. 14). It is likely that *Apetaenus* species have an opportunistic, polysaprophagous diet in addition to a microalgal *pabulum*, which constitutes the main food resource (Séguy, 1940; Munari, 2007). The Apetaeninae are, therefore, flies which typically occur in remote, isolated, oceanic places influenced by severe, sometimes extreme living conditions for most organisms occurring there.

The main target of this second contribution is to investigate more thoroughly the taxonomy of the Apetaeninae, including some new taxonomic proposals as well as the subdivision of the species *Apetaenus litoralis* Eaton into three subspecies, with description of a new subspecific taxon from Marion Island.

Materials and methods

Most specimens are double mounted, mostly glued or even micropinned to a card slip. Their study and illustration required the use of dissecting and compound microscopes, the latter used in particular for perusal of the genitalic structures. Micropincers and dissecting needles with lanceolate point were used to remove abdomens, which were macerated in a boiling, potassium hydroxide solution. The abdomens, once cleared in