



A conspectus of New Zealand flower flies (Diptera: Syrphidae) with the description of a new genus and species

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Abstract

A key to the New Zealand flower fly genera is presented; one new genus (*Anu* Thompson, type *una* Thompson) and one new species (*Anu una* Thompson) are described. A checklist of the flower flies of New Zealand is also included.

Key words: Diptera; Syrphidae; generic key, checklist

Introduction

A new genus and species of flower flies from New Zealand (*Anu una*) are described to make the names available for a forthcoming book on the biodiversity of New Zealand flies (Macfarlane, et alia). To put *Anu* into proper perspective, the New Zealand flower flies are reviewed. A key to the genera of New Zealand Syrphidae is presented. A number of new combinations, synonyms, and other taxonomic actions are made to bring the New Zealand fauna into congruence with the fauna of the rest of the World. These changes are here documented in the form of a checklist, although most have already appeared in the recent *Catalog of the Diptera of Australasian and Oceanian Regions* (Thompson & Vockeroth 1989). All extant types of names associated with New Zealand flower flies have been studied. Details on the specimens and associated label data with lectotype designations will be published in a monographic treatment planned for the *Fauna of New Zealand* series.

The New Zealand biota is one of the most critical for understanding the history of life on earth. Regardless of one's biogeographic paradigm, the New Zealand biota is a pivotal test of it. Hence, description of the New Zealand biota is the first vital step to solving many essential questions. For example, if one adheres to a dispersal paradigm, then the flower flies native to New Zealand should be related to species found in adjacent (the most proximal) areas (Australia, Chile, New Caledonia, etc.). And given that insect dispersal is largely passive and related to wind patterns, then one would assume that the New Zealand flower flies should be most closely related to those of Australia or perhaps New Caledonia. But if one accepts a vicariance paradigm, which assumes that organisms are rather immobile (as species) and disperse with the land, then one might assume the relationship of the flower flies reflects the break-up of ancient landmasses, such as Gondwana, and the New Zealand flower flies should therefore be most closely related to those of Chile. Surprisingly, what we know of the New Zealand flower flies suggests that most are not related to those of Australia, Chile nor New Caledonia.

The New Zealand flower fly fauna can be split into 4 groups: 1) radiation after dispersal /vicariance events from unknown sources (*Platycheirus* (*Eocheilosia*)—30+ species; *Allograpta*—32+ species; *Helophilus* (*Pilinastica*)—19+ species); 2) singleton vicariance / dispersal events [that is, the sister taxon is in the other area]