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## **The Australian Genera of Mymaridae (Hymenoptera: Chalcidoidea)**

NAI-QUAN LIN, JOHN T. HUBER & JOHN La SALLE



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## Abstract

The genera of Mymaridae occurring in Australia are keyed and a diagnosis for each is given. Forty-five nominal genera are recognized, including three new ones: *Kompsomymar* Lin and Huber, **gen. nov.**, with type species *K. bicoloratum* Lin and Huber, **sp. nov.**, *Cleruchoides* Lin and Huber, **gen. nov.**, with type species *C. noackae* Lin and Huber, **sp. nov.**, and *Parastethynium* Lin and Huber, **gen. nov.**, with type species *Parastethynium maxwelli* (Girault), **comb. nov.** from *Stethynium*. The Australian genera are placed in twelve informal groups. Three new generic synonymies are proposed: *Haplochaeta*, **syn. nov.** under *Cleruchus*, *Idiocentrus*, **syn. nov.** under *Paranaphoidea*, and *Nesetaerus* **syn. nov.** under *Australomymar*. Twenty-six **new combinations**, are proposed: *Allanagrus aurum* (Girault), *A. gladius* (Girault) and *A. mayeri* (Girault) from *Stethynium*; *Arescon nigriceps* (Girault) from *Anthemus*; *Australomymar gressitti* (Doutt) from *Nesetaerus* and *A. incerta* (Girault) from *Polynemoidea*; *Ceratanaphes laplacei* (Girault) and *C. wallacei* (Girault) from *Erythmelus*; *Cleruchus schilleri* (Girault) and *C. tintoreti* (Girault) from *Erythmelus*, and *Cleruchus mandibularis* (Noyes and Valentine) from *Haplochaeta*; *Erythmelus emersoni* (Girault) from *Anthemus*; *Gonatocerus aureinotum* (Dodd), *G. bellus* (Girault), *G. centaurus* (Girault), *G. citriscapus* (Girault), *G. flavipes* (Girault), *G. gigas* (Girault), *G. ignipes* (Girault), *G. iona* (Girault); *G. mirus* (Girault), and *G. prometheus* (Girault) from *Ooctonus*; *Mimalaptus victoriae* (Girault) from *Dicopus*; *Paranaphoidea harveyi* (Girault) from *Erythmelus*; *Pseudanaphes lincolni* (Girault) and *P. particoxae* (Girault) from *Polynemoidea*. The species occurring in Australia are listed for each genus and their type localities are given.

**Key words:** Mymaridae, Chalcidoidea, Hymenoptera, egg parasitoids, Australia, genera, identification

## Introduction

Mymarids, or fairy flies, are small parasitic wasps, with some members being the smallest of all insects. The family Mymaridae is among the best defined of any chalcidoid family. Its members are abundant and easily collected using a variety of trapping methods. Schauff (1984) and Gibson (1986) discussed their relationships, giving evidence that mymarids are among the most primitive of chalcidoids and apparently the sister group to the rest of the Chalcidoidea. Huber (1986) reviewed the history, systematics, biology and hosts of Mymaridae, and Huber (2005) listed the 181 genus-group and 18 family group names.

All mymarids are egg parasitoids, with two known exceptions (Huber et al. 2006), but only about one quarter of the genera have hosts reported for them. The most common hosts are Hemiptera Auchenorrhyncha, but Coleoptera, Psocoptera, Diptera and Orthoptera are also attacked (Huber 1986). Although egg parasitoids have often been considered as unsuitable for biological control programs, a few species of mymarids have been responsible for biological control successes. The Australian species *Anaphes nitens* (Girault) was used successfully to control *Gonipterus scutellatus* Gyllenhal (Coleoptera: Curculionidae), a pest of *Eucalyptus* in