

Mymarommatoidea, a Superfamily of Hymenoptera New for the Hawaiian Islands

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Abstract. The family Mymarommatidae, represented by an unidentified species of *Palaeomymar* Meunier related to *P. goethei* (Girault), is reported for the first time from the Hawaiian Islands.

The first Hawaiian specimen of *Palaeomymar* Meunier was collected in 1981 by sweeping. The specimen was critical point dried and point mounted. During insect survey work on Molokai, one of us (WDP) collected ten additional specimens using yellow sticky board traps hung five to seven feet above the ground in roadside trees. Specimens were removed from the traps with lighter fluid, cleared briefly in 10% KOH, and slide mounted in Canada balsam. The specimens are deposited in the Bernice P. Bishop Museum, (BPBM), Hawaii Department of Agriculture, Honolulu (HDOA), and Canadian National Collection of Insects (CNCI), Ottawa.

Family Mymarommatidae

The small family Mymarommatidae (Mymarommidae or Mymaromminae of authors) formerly was classified either in the Chalcidoidea (Debauche 1948, Gauld and Bolton 1988) or in the fossil family Sepsitidae of the Proctotrupoidea (Nikol'skaya 1987). It is now often placed in its own superfamily, and is probably the sister group to the Chalcidoidea (Gibson 1986, 1993).

Although mymarommatids superficially resemble Mymaridae (Chalcidoidea) in size and general appearance, they differ from all chalcidoids in lacking a prepectus, lacking sensory ridges (longitudinal multiporous plate sensilla) from the funicle segments, and possessing a two-segmented gastral petiole (Fig. 1). The structure of mymarommatid wings is unique in that the hind wing is reduced to a very short, bifurcate halterlike structure without membrane, and the forewing (Fig. 1) has reticulate pattern on its surface. The structure of the head is also unique. The front of the head consists of a single hemispherical sclerite bearing the mouthparts, antennae, and eyes. The back of the head is a flat plate separated laterally and dorsally from the rest of the head by a bellows-like membrane.

Mymarommatidae is an ancient family whose fossils have been described from Cretaceous and more recent amber. *Palaeomymar* Meunier (junior syn. *Mymaromma* Girault) has eight extant species. It is worldwide in distribution and occurs on all continents and associated continental islands including, for the Pacific region, Japan, Taiwan, Philippines,

New Caledonia, Australia, and New Zealand. Specimens are almost always collected in moist forest habitats. One specimen from North America was reared from a bracket fungus (Gibson 1993), but the hosts and biology of mymarommatids are otherwise unknown and the family is rarely collected.

Mymarommatids have been collected only from Norfolk Island of the small oceanic islands in the south Pacific. The Hawaiian specimens are the first to be collected from oceanic islands of the north Pacific. Very likely, intensive collecting using passive techniques such as yellow pan traps, sticky board traps or fine-mesh Malaise traps will demonstrate their presence on additional Pacific islands, particularly those that are well forested.

Females of the unidentified Hawaiian specimens have six funicle segments and an unsegmented clava, whereas males have filiform antennae with 10 flagellar segments. The species thus appears to be most closely related to *P. goethei* Girault (1920) from Australia which also has six funicle segments in females (males are unknown). All remaining described species of *Palaeomymar* have seven funicle segments in females and, where males are known, 11 flagellar segments.

Material examined. Molokai I.: nr. Kamalo Bridge, el. 3', W.D. Perreira, 1–15.iii.1996 (1 ♀, BPBM); Mapulehu near Iliiopae Heiau, el. 10–40', 27.x–10.xi.1995 (1♂, HDOA), 24.xi–8.xii.1995 (1♂, BPBM), 8–22.xii.1995 (2 ♀ and 2♂, BPBM, CNCI), 1–15.iii.1996 (1♂, BPBM), and 24–26.iv.1996 (1 ♀, CNCI), W.D. Perreira (BPBM, CNCI). **Oahu I.:** Pearl Harbor, West Loch, 5', 5–14.i.1998, W.D. Perreira (1♂); Waimea Falls, 11.vii.1981, G. Gordh (1 ♀, CNCI).

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Fig. 1. *Palaeomyrmar* sp. from Hawaii. Forewings and middle of body showing two-segmented petiole.



