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***Gasteruption youngi* sp. nov. (Hymenoptera: Evanioidea: Gasteruptionidae) from South Australia; an unusual species with trichoid sensilla on the ovipositor sheaths**

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Abstract

Gasteruption youngi, sp. nov. (Evanioidea: Gasteruptionidae) is described based on several female specimens from South Australia. The new species is unusual in that it has stout trichoid sensilla on the ovipositor sheaths and long, thin trichoid sensilla on metasomal tergites T3–T8. The likely host is the colletid bee *Euryglossula microdonta* (Rayment, 1934).

Key words: Gasteruptioninae, new species, host record

Gasteruptionidae (Evanioidea) is divided into two subfamilies, Gasteruptioninae and Hyptiogastrinae (Jennings & Austin 2002). They can be separated most readily by the first discal cell in the vast majority of Gasteruptioninae being formed by fore wing vein 1-Rs+M forming a node at 1-Rs, M+Cu and 1-Cu (Fig. 5). A small number of *Gasteruption* L. species, however, show various degrees of occlusion of the discal cell (see Crosskey 1962; Jennings & Austin 1994; Macedo 2011). In Hyptiogastrinae, 1-Rs+M intersects the basal cell about one-quarter to one-third of the distance from M+Cu (Jennings & Austin, 2002), although the discal cell is completely missing in *Pseudofoenus* Kieffer species from New Zealand, 1-Rs+M and 1-Cu(b) being fused to form Rs+M+Cu(b), and veins 1-M and m-cu being absent (Jennings & Austin 1994). Jennings & Austin (2002) provide a more detailed comparison of the two subfamilies.

Most Gasteruptioninae (Gasteruptionidae) belong to the diverse and cosmopolitan genus *Gasteruption*, although several Neotropical species have been assigned recently to three small genera; *Plutofoenus* Kieffer (3 spp.—southern South America), *Spinolafoenus* Macedo (1 sp.—Chile) and *Trilobitofoenus* Macedo (3 spp.—Central and South America) (Macedo 2009). In total, more than 400 *Gasteruption* species have been described worldwide, with more than a quarter (113 valid species but also 14 *incertae sedis*) endemic to Australia (Jennings 2010). Many of these Australian species were described more than a century ago, although Pasteel's revision (Pasteel 1957) provided additional species.

Hyptiogastrinae, which comprises *Hyptiogaster* Kieffer (10 spp.—mainland Australia), and *Pseudofoenus* (79 spp.—largely Australasian in distribution, except for two South American species), has been revised recently (Jennings & Austin 1997, 2002, 2005). As with *Gasteruption*, *Hyptiogaster* have long ovipositors, but in the sister genus *Pseudofoenus*, the ovipositor is very short and hidden by the ovipositor sheaths.

All available host records indicate that Gasteruptionidae are predator-inquilines in the nests of solitary bees and possibly solitary wasps, where they eat the host egg or developing larvae and then consume the pollen store which the host has provided for its developing young (see Jennings & Austin 2004 for a summary).

As part of an on-going examination of Australian Evanioidea, several specimens of a *Gasteruption* with unusual setose ovipositor sheaths were collected in South Australia. We describe this new species herein.

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