



## Review of *Goniozus* Förster, 1856 (Hymenoptera: Bethylinidae) of Korea, with descriptions of two new species

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### Abstract

Five species of *Goniozus* are recognized in Korea. *Goniozus koreanus* Lim, **sp. nov.** and *G. mesolevis* Lim, **sp. nov.** are described and figured; *G. akitsushimanus* Terayama, 2006 and *G. yoshikawai* Terayama, 2006 are newly recorded from Korea. *Goniozus maurus* Marshall, 1905 is excluded from Korean fauna. A key to the Korean species in females is provided.

**Key words:** Ectoparasitoid, *Goniozus*, Korea, new species, new record

### Introduction

The genus *Goniozus* Förster, 1856 from subfamily Bethylinae consists of approximately 170 species worldwide, of which are recorded from Oriental (53 spp.), Neotropical (35), Nearctic (32), Palearctic (28), Afrotropical (12), and Australian (9) regions (Xiao & Wu, 1987; Gordh & Móczár, 1990; Gordh *et al.*, 1993; Gorbatovskij, 1995; Melo & Evans, 1993; Gordh & Witethom, 1994; Krombein, 1996; Terayama, 1994; 2004; 2006; Xu *et al.*, 2002; Santhosh & Narendran, 2009).

*Goniozus* species are small wasps (1.5–5.0 mm in length), usually black coloration with following characteristics: maxillary and labial palpi 5+3 respectively; clypeus with strongly produced angular or subangular median lobe, median polished streak, carina; scutellum with one pair of basal pits which are connected with scutellar groove; propodeum laterally margined, transverse posterior carina complete, incomplete, or absent; fore wing with large triangular prostigma; radial vein not reaching the anterior margin (Evans, 1978, Terayama, 2006).

Although most members of *Goniozus* have been recorded as ectoparasitoids of immature stages of microlepidopteran families (e.g. Gelechiidae, Pyralidae, and Tortricidae) (Gordh & Móczár, 1990), one species, *G. microstigma* Melo & Evans was recorded as parasite of Crabronidae (Melo & Evans, 1993). Due to these habits, some species are using or trying to control insects pests (Legner & Guido, 1983; Berry, 1998). For example, *Goniozus legneri* Gordh is commercially using as a biological control agent against for Navel Orange Worm, *Amyelois transitella* Walker (Lepidoptera: Phycitidae) (Sterling Insectary, 2011). On the other hand, temporary problem caused by stings of *G. antipodum* Westwood on human was reported (Harris, 1996).

Up to date, three bethyline species, *Goniozus maurus* Marshall, *G. japonicus* Ashmead and *Odontepyrus telortis* Lim & Lee have been recorded (Nakayama, 1941; Terayama, 2006; Lim *et al.*, 2009) in Korea. Herein two new species, two newly recorded species, and one previously known species, were taxonomically treated with re-descriptions and diagnostic illustrations for each species. A key to the Korean *Goniozus* species is provided.