



Gonioctena koryeoensis (Coleoptera: Chrysomelidae: Chrysomelinae), a new species from Korea, with a description of immature stages

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Abstract

Gonioctena koryeoensis **sp. nov.** (Coleoptera: Chrysomelidae: Chrysomelinae) is described based on adults, larvae, and pupae collected from the southeastern Korean Peninsula. The new species is easily distinguished from related species by coloration, size, length ratio of antennal segments, and shape of aedeagus. The larva and pupa are also distinguished from all other known species by the tubercle pattern and the apical processes of the ninth abdominal segment, respectively. Notes on distribution, host plant, and ovoviviparity are included.

Key words: Coleoptera, Chrysomelidae, *Gonioctena koryeoensis*, new species, larva, pupa, ovoviviparity, Korea

Introduction

The genus *Gonioctena* Chevrolat, 1837 is distributed in the Holarctic and Oriental regions, with more than 80 species (Gruev 1989; Mardulyn *et al.* 1997; Medvedev 1999, 2004; Ge *et al.* 2007; Takizawa 2007). Nine subgenera of *Gonioctena* are recognized, based on the following combination of characters: setigerous pore of prothorax, seriate punctuation of elytra, penultimate antennal segment, and preapical dentation of fore-tibia (Takizawa 1976). Fifty-three species, more than half of the known taxa, occur in northeastern Asia, including 18 species in the Russian Far East (Lopatin *et al.* 2004), 29 in China (Ge *et al.* 2007), 10 in Korea (Cho & Lee 2008), and 18 in Japan (Takizawa 2007). Among these, 12 species have been described only in the last decade. In contrast to adults, the immature stages of *Gonioctena* remain poorly known, even though the importance of larval characters for the phylogeny of Chrysomelinae is well known (Kimoto 1962). Larvae of 37 species and pupae of 11 species have been described, based primarily on tubercle pattern and chaetotaxy (Medvedev & Zaitsev 1978; Lawson 1991; Kimoto & Takizawa 1994, 1997; Cox 1996; Steinhausen 1996; Takizawa & Daccordi 1998; Baselga & Novoa 2004; Baselga 2008, 2010).

During recent fieldwork in Korea, we discovered an undescribed *Gonioctena* species, with many larvae, on Mt. Cheonseongsan, located on the southeastern Korean Peninsula. Here, we describe and illustrate adult and immature stages of the new species, *Gonioctena koryeoensis* **sp. nov.** The adult is distinguished by its small body size, coloration of pronotum and ventral surfaces, length ratio of antennal segments, and shape of aedeagus, compared to its closest relatives *Gonioctena laeta* Medvedev and *Gonioctena japonica* Chûjô et Kimoto. The larva and pupa can also be distinguished from all other known species by the tubercle pattern on the thorax and abdomen and the shape and chaetotaxy of the apical processes of the ninth abdominal segment, respectively. Notes on distribution, host plant, and ovoviviparity are also provided.

Material and methods

The holotype and paratypes are deposited in the Systematic Entomology Laboratory, Andong National