



## Two new records of the tribe *Cardiastethini* (Hemiptera: Heteroptera: Anthocoridae) from the Korean Peninsula

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The tribe *Cardiastethini* Carayon 1972 belongs in the family Anthocoridae (Heteroptera: Cimicomorpha). As with other anthocorid flower bugs, the members of the *Cardiastethini* prey on small arthropods. The predaceous habits of many anthocorids have attracted the attention of researchers who work in agro-ecosystems (e.g., biological control; Lattin 1999).

The tribe *Cardiastethini* Carayon 1972 had been synonymized under the *Dufouriellini* Van Duzee 1916 (Štys 1975). Recently, Carpintero and Dellapé (2008) transferred the genus *Dufouriellius* Kirkaldy 1906 (type genus for the tribe *Dufouriellini*) to the tribe *Anthocorini* Fieber 1836. Therefore, they reestablished the *Cardiastethini* (nom. restit.), and proposed *Dufouriellini* as a junior synonym of the tribe *Anthocorini* Fieber 1836. Following this taxonomic change, all genera of the *Dufouriellini*, except for the *Dufouriellius*, were restored in the tribe *Cardiastethini*. After that revision, the *Cardiastethini* is now re-assigned at the tribal level, and is composed of 15 genera with a primarily tropical distribution (Carpintero and Dellapé 2008).

Our long term surveys on the anthocorid taxa in the Korean Peninsula have resulted in the recognition of two genera of the tribe *Cardiastethini*, *Cardiastethus* Fieber and *Physopleurella* Reuter, and two species, *C. exiguus* Poppius and *P. armata* Poppius reported for the first time in the Korean Peninsula, which is the northern limit in the distribution for these species. Diagnoses for the tribe, genera, and species are given. Descriptions and biological notes with illustrations of the two species based on the local specimen data are presented. Taxonomic remarks for the recently restored tribe *Cardiastethini* are also given.

### Material and methods

Most specimens were collected and preserved in 80% ethyl alcohol, then dried and pinned on cardboard. Examination and illustration of the genitalia and other detailed external structures, such as the pygophore, were made from specimens macerated in 5% hot KOH solution for 3–5 min. They were dissected with micro-pins in glycerin on a well-glass slide under binocular microscope, then dehydrated in a series of ethyl alcohol solutions, and then mounted with Canada balsam for preserving in permanent preparations following the production method of macerated slide specimen by Jung *et al.* (2011a) and Jung *et al.* (2011b).

In the descriptions, all measurements are given in millimeters. Terminology mainly follows Carayon (1972) and Péricart (1972).

### Taxonomy

#### Tribe *Cardiastethini* Carayon

*Cardiastethini* Carayon 1972: 338 (= *Dufouriellini* syn. Štys 1975: 161; restored by Carpintero & Dellapé 2008: 503–508). Type genus: *Cardiastethus* Fieber 1860.