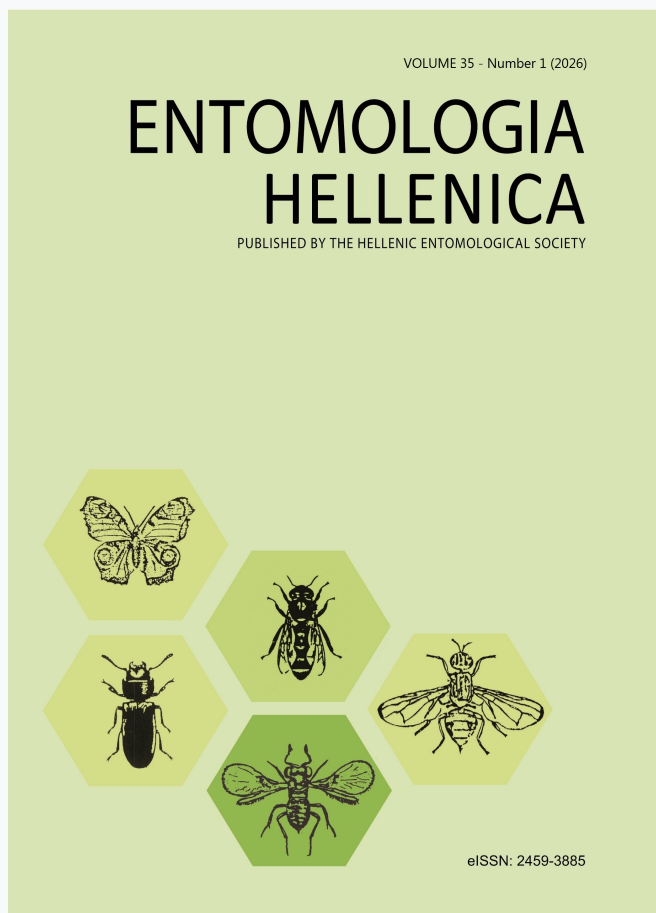


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Incidence of the invasive citron bug *Leptoglossus gonagra* (Fabricius) (Hemiptera: Heteroptera) in Vietnam and first teratological case for the species

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ABSTRACT

First formal records of the citron bug *Leptoglossus gonagra* (Fabricius, 1755) for Vietnam are provided. In addition, the first teratological case for *L. gonagra* is presented, belonging to an unilateral simple oligomery in the mesothoracic leg. The new record and the teratosis are commented on and discussed.

KEY WORDS: Coreidae, Coreinae, Faunistics, Teratology.

Introduction

The citron bug *Leptoglossus gonagra* (Fabricius, 1755) (Fig. 1) is a New World species and one of the two in the genus *Leptoglossus* that has invaded other world regions together with *Leptoglossus occidentalis* Heidemann (Brailovsky 2014; Faúndez et al. 2020). Currently *L. gonagra* is widely distributed in the Americas, Africa, Australia, South Pacific Islands, parts of Asia and Southeast Asia, and seems to be further expanding. This species is considered economically important because it feeds on a wide variety of plants, especially those of the Cucurbitaceae family, attacking several cultivars and fruit trees; and also, can vector the trypanosomatids *Phytomonas* spp. (Maes and Gollner-Scheiding 1993; Dammer and Ravello 1990). The aim of this work is to present the first record of the species for Vietnam and to describe the first teratological case on the species.

Materials and Methods

For identification and classification of the bug, the methods of Brailovsky (2014) were

followed. For the detailed classification, description, and terminology of the teratological cases, studies of Balazuc (1951) and Štusak and Stehlik (1979) were followed. The map in Figure 2 was developed using data from the iNaturalist project, “Citron bug in Vietnam” (Faúndez 2025). The data from the citizen science project was revised and curated by the author. Photos were taken with a Ricoh 550 digital camera adapted to a Celestron P45 stereoscopic microscope. Measurements are in millimeters. Material examined is deposited in the NINFA center, Punta Arenas, Chile.

Results

Distribution. In the Americas this species was recorded in Argentina, Bolivia, Brazil, Belize, Cuba, El Salvador, Guatemala, Costa Rica, Jamaica, México, Puerto Rico, Nicaragua, Paraguay, Uruguay, Venezuela and West Indies. On the other hand outside its native range it has been found in Africa, Australia, Canary Islands, Ceylon, Cook Islands, Fiji Islands, India, Indonesia, South Korea, Madagascar, Malay Archipelago, Micronesia, New Hebrids, New Caledonia,

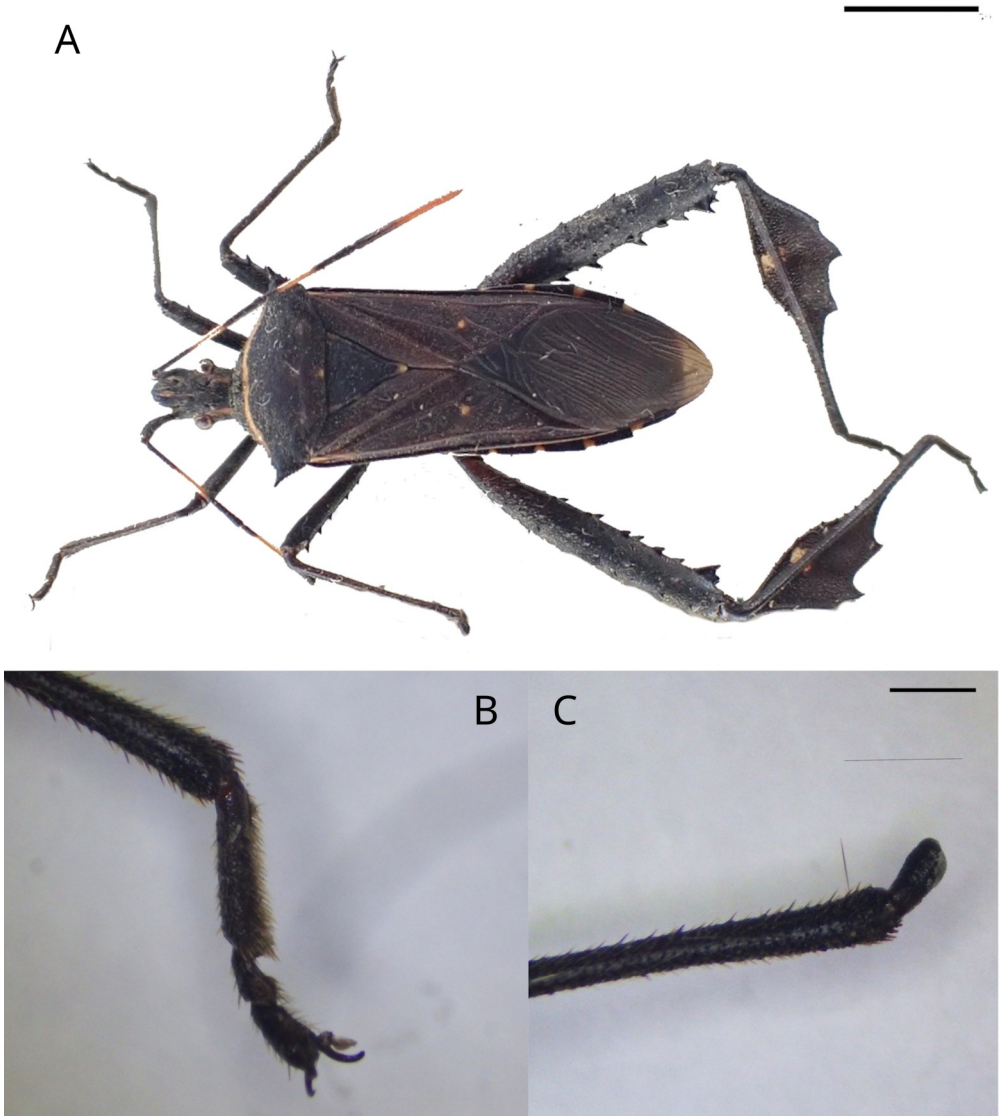


FIG. 1: *Leptoglossus gonagra*. Teratological specimen from Vietnam. A: Habitus (scale = 5mm), B: Right methathoracic tarsus (normal) (scale = 1 mm), C: Left methathoracic tarsus (malformed) (scale = 1mm).

New Guinea, Phillipine Islands, Samoa, Seychelles Islands, Solomon Islands, South East Asia, East Asia, Tahiti and Taiwan (Brailovsky 2014; Brailovsky and van der Heyden 2019; Lee et al. 2020). Although it is widely mentioned in South East Asia, it had never been formally recorded for Vietnam. This study provides the first formal records in the country.

Material examined. VIETNAM, Yen Bai, V-2024, 2 males 4 females; Binh Thanh, VI-2023, 1 female.

Although both records are very distant from far north to southern extreme, there are several citizen science records (Faúndez, 2025) that fill the gap, showing a very wide distribution for the species within the country (Fig. 2).

In addition, one male specimen from Yen Bai area exhibits a teratosis, which is described in detail below.

Unilateral simple oligomery. The specimen shows an oligomeric left mesothoracic tarsus (Fig. 1A), with only one segment (0, 85 mm) (Fig. 1C). The tarsomere is subconical with nearly truncate apex; pilosity is scarce and with longer, sensory type setae, towards the apex. There are not signs of anarthrogenesis, and there are no pretarsal structures. The left metathoracic leg tarsus is normal (3, 22 mm) (Fig. 1B) with the first tarsomere slightly longer than the malformed (1, 24 mm).

Discussion and conclusions

According to Balazuc (1951) anomalies in the legs can be explained by mechanical damages or injuries during nymphal stages, or even the exposure to environmental external factors. In this case, following the observations and experiments of Lüscher (1948), the specimen could have a tarsal injury (teratogenic) in the last nymphal instar, having not enough time to better regenerate the tarsomeres. This is the third known teratological case in a *Leptoglossus* species; previously two antennal anomalies have been described for *Leptoglossus concaviusculus* Berg, 1892 (Rocca and Faúndez 2017). Therefore, this is both first teratosis known in *L. gonagra*, and the first leg anomaly in the genus *Leptoglossus*.

Although *L. gonagra* has long been known from Southeast Asia, this contribution provides the first formal records in Vietnam. Furthermore, the earliest known record originating from citizen science is from 2020. Therefore, invasion and widespread of the species in the country might be a relatively recent event. Thus, considering its economic importance, further research is urgently needed to assess the species' potential impact in Vietnam.

Acknowledgements

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FIG. 2: Distribution of *Leptoglossus gonagra* in Vietnam.

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