



First record of *Lema (Lema) diversipes* Pic (Coleoptera: Chrysomelidae: Criocerinae) from Korea

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Introduction

Lema Fabricius is the largest genus of the subfamily Criocerinae and is distributed worldwide (Monrós 1959, Schmitt 1988). In Korea, genus *Lema* is represented by 12 species: *Lema (Lema) concinnipennis*, *L. (L.) coreensis*, *L. (L.) cyanella*, *L. (L.) decempunctata*, *L. (L.) delicatula*, *L. (L.) dilecta*, *L. (L.) diversa*, *L. (L.) scutellaris*, *L. (Petauristes) adamsii*, *L. (P.) fortune* and *L. (P.) honorata*. Most species of this genus are known as crop and medical plants pest.

Lema (Lema) diversipes Pic, are known to feeding on *Pueraria lobata*. Both early stage of larvae and adults are gregarious feeding habit living groups on leaves. Feeding on Fabaceae plants for *L. (L.) diversipes* is very rare in members of the genus *Lema*. Therefore, there is a possibility that it will be used as a biological control agent for *Pueraria lobata*, a weed that spread out not only North East Asia (China, Japan, Korea and Russia) but also North America and is difficult to control. In the present study, *Lema (Lema) diversipes* Pic, is reported for the first time from Korea. A dorsal habitus image and illustration of the male genitalia are provided.

Materials and Methods

Examined materials were collected in Gwangyang-si, Jeollanam-do of Korea. All specimens used in the study were preserved in 70% ethanol. For morphological studies of minute structures, the aedeagus and other appendages were softened and cleared in 10% sodium hydroxide solution, rinsed in distilled water, and then mounted on slides with Neo-shigaral solution. Morphological photographs were taken using Olympus Tough-5. Descriptions and illustrations were prepared using LEICA M125, Olympus SZX-12 and Olympus BX50 microscopes, and equipped with a drawing tube and Adobe Photoshop program CS6.

Taxonomic accounts

Order Coleoptera Linnaeus, 1758

Family Chrysomelidae Latreille, 1802

Subfamily Cricocerinae Latreille, 1804

Tribe Lemiini Heinze, 1962

Genus *Lema* Fabricius, 1798

***Lema (Lema) diversipes* Pic, 1921**

Material examined:

Examined materials were collected on *Pueraria lobata*, Seonghwang-dong, Gwangyang-si, Jeollanam-do, 18. IX. 2022, 15 exs.

Description & Distribution map:

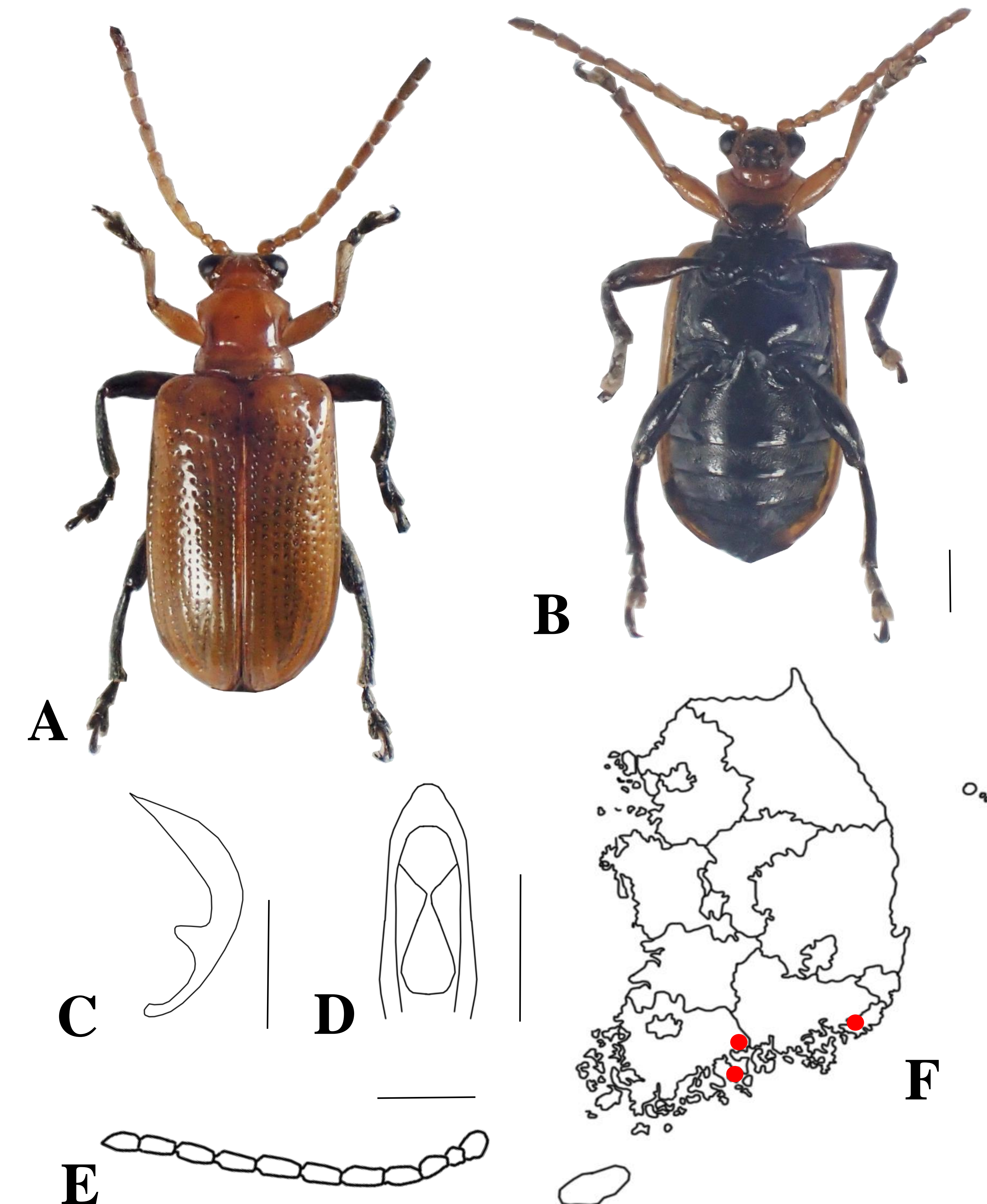


Fig. 1. *Lema (Lema) diversipes* Pic

A. habitus (d.v.); B. habitus (v.v.); C. aedeagus (l.v.); D. aedeagus (d.v.); E. antenna; F. distribution map. d.v. = dorsal view; l.v. = lateral view; scale bars: A, B, C, E 1mm; D 0.5mm.

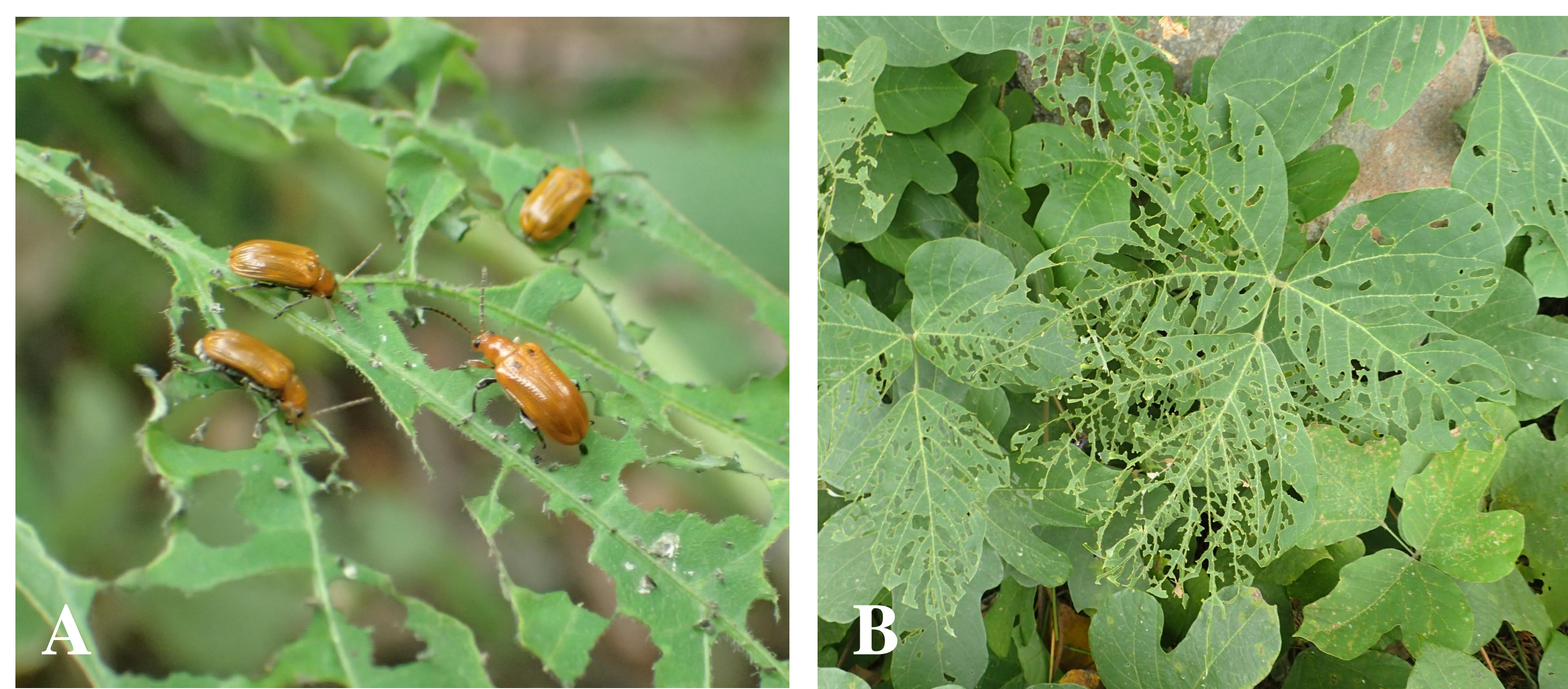


Fig. 2. *L. (L.) diversipes* A. adults; B. eaten traces by adults.

DIAGNOSIS: Body elongate; dorsal surfaces yellowish brown; head yellowish brown; antenna 1-4 yellowish brown, 5-11 blackish-brown, sometimes entirely yellowish brown; pronotum entirely yellowish brown; scutellum yellowish brown; elytra entirely yellowish brown; ventral surfaces black; front leg femur and tibia yellowish brown, tarsal segments blackish-brown; middle leg femur is orange, tibia and tarsal segments blackish-brown; hind leg blackish-brown.

Head produced anteriorly; occiput distinctly delimited from the neck-region and separately convex from the latter.

Antenna slightly slender, 0.6 times as long as body length; segment 1 robust, spherical shape; 2 shortest; 3 is nearly 2.0x as long as 2; 4 subequal to 3; 5-10 subequal to each other in length and shape; 11 subequal to 10 in length but its apex pointed.

Prothorax very strongly constricted in the middle of latera side; dorsal surface sparsely; middle and anterior margin lateral side very finely punctured.

Scutellum subtriangular and rounded at apex; surface impunctated and sparsely pubescent.

Elytron subparallel-sided, gradually narrowed apically; the surface strong 11 punctate-striate, but punctures in scutellar row similar in size to those of other rows, their interspaces smooth. ventral surface moderately punctuated throughout, with white pubescences.

Legs slender and femur slightly thickened.

Comments: In Taiwan, pronotum and elytra are described as reddish-brown, and scutellum as brown (Lee, 2013). However this species found in Korea was yellowish-brown in color.

Distribution.

China, Taiwan, Thailand, Japan, Korea (new record)

Host plants.

Pueraria lobata (Willd.) Ohwi

Localities with occurrences in Korea.

Yeosu-si, Jeonllanam-do; Gwangyang-si, Jeonllanam-do; Gangseo-gu, Busan

Reference:

- Chûjô, M. (1951) A taxonomic study on the Chrysomelidae (Insecta-Coleoptera) from Formosa (Part 1 – Subfamily Criocerinae). *Technical Bulletin of the Kagawa Agricultural College* 2 (2): 71–120.
- Lee, C. F., & Matsumura, Y. (2013). On newly and recently recorded species of the genus *Lema* Fabricius (Coleoptera, Chrysomelidae, Criocerinae) from Taiwan. *ZooKeys*, (262), 17.