



RESEARCH ARTICLE

First record of the seed beetle *Bruchidius siliquastris* (Coleoptera, Chrysomelidae, Bruchinae) from Greece

Georgios Gastouniotis¹, Athanasios Boulas², Panagiotis Gastouniotis¹

1 Department of Crop Science, Agricultural University of Athens, GR-11855 Athens, Greece

2 Department of Biology, National and Kapodistrian University of Athens, GR-10562 Athens, Greece

Corresponding author: Georgios Gastouniotis (geogas50@gmail.com)

Received 1 August 2023 | Accepted 6 November 2023 | Published 30 June 2024

Citation: Gastouniotis G, Boulas A, Gastouniotis P (2024) First record of the seed beetle *Bruchidius siliquastris* (Coleoptera, Chrysomelidae, Bruchinae) from Greece. Travaux du Muséum National d'Histoire Naturelle "Grigore Antipa" 67(1): 65–70. <https://doi.org/10.3897/travaux.67.e110398>

Abstract

Bruchidius siliquastris Delobel, 2007, a chrysomelid species presumably of East Asian origin, is recorded for the first time in Greece. It is regarded as an invasive species in Europe that feeds on the seeds of *Cercis siliquastrum* L. (Fabaceae). The species distribution and ecology are briefly discussed. An additional record of *Bruchidius terrenus* (Sharp 1886) in Greece is also provided.

Keywords

Chrysomelidae, *Cercis siliquastrum*, invasive species, seed beetles.

Introduction

The chrysomelid species *Bruchidius siliquastris* Delobel, 2007 is a relatively recently-described species with the type series consisting of specimens reared from pods of *Cercis siliquastrum* L. (Fabaceae) in southern France. Specimens from China and Hungary were also reported without becoming a part of type series (Kergoat et al. 2007). Since its description, the species has been reported in many countries with the currently-known distribution including the following countries: France, Hungary, Slovakia, Belgium, Gibraltar, Spain, Czech Republic, Bulgaria, Monaco, Serbia, Germany, Britain, Crimea (Ukraine), Italy, Romania, Turkey, China and South Korea (Kergoat et al. 2007; Kollár et al. 2009; Hanssens 2009; Yus Ramos et al. 2009; Šefrová

2010; Stojanova et al. 2011; Ponel et al. 2011; Gavrilović and Savić 2013; Rheinheimer and Hassler 2013; Hizal and Parlak 2013; Barclay 2014; Martynov and Nikulina 2015; Yus Ramos and Bocci 2017; Pintilioaie et al. 2018; Jeong et al. 2022). *Bruchidius* Schilsky, 1905 is a bruchine genus represented by more than 50 species in Greece (Borowiec and Anton 1993; Ricci and Zampetti 2005; Anton 2010; Yus-Ramos and Angelini 2018). *B. siliquastris* is the second non-native species of this genus that has been found in Greece, after *B. terrenus* (Sharp, 1886) (Stojanova 2010) and the 11th species (excluding species of the genus *Bruchus* whose alien status is speculative) of non-native Bruchinae in general (Yus-Ramos et al. 2014).

Materials and methods

Specimens of *B. siliquastris* were collected in both rural and urban areas of Greece, using a sweeping net. All specimens are dry mounted on paper boards, stored in the authors' collections. The identification of both *Bruchidius* species was made following the key given by Yus-Ramos et al. (2014). The morphology of the specimens is consistent with the key, except for the coloration of the abdomen which in *B. siliquastris* from Greece is black on the tergites and base of the pygidium (Fig. 1 B, C).

Specimens examined

Bruchidius siliquastris Delobel, 2007

GREECE • 6 specimens [5♀, 1♂ (Fig. 1 B, D)]; Corinthia; Nemea; 34.819°N; 22.671°E; 02 March 2023 • 6 specimens (6♀); same location; 13 May 2023 • 2 specimens [1♀ (Fig. 1 A, C, E), 1♂]; Corinthia; near Soulinari; 37.9111°N; 22.755°E; 12 May 2023 • 3 specimens (3♀); Corinthia; near Halki; 37.870°N; 22.708°E; 12 May 2023 • 1 specimen (♀); Attica; Athens; 34.984°N; 23.707°E; 02 March 2023 G. Gastouniotis coll. and det. • 5 specimens (4♀, 1♂); Trikala Pref.; near Monastery of St. Varlaam; 39.724°N; 21.630°E; 12 June 2023 P. Gastouniotis coll., G. Gastouniotis det. • 1 specimen (1♀); Attica; Alimos; 37.911°N; 23.728°E; 10 May 2023 • 1 specimen; Attica; Argyroupoli; 37.914°N; 23.763°E; 14 May 2023 • 1 specimen (♀); Eurytania; near Fournas; 39.049°N; 21.873°E; 21 June 2023 A. Boulas coll., G. Gastouniotis det.; all specimens where collected on *Cercis siliquastrum*.

Bruchidius terrenus (Sharp, 1886)

GREECE • 1 specimen (♀); Attica; Athens; 34.984°N; 23.707°E; 02 March 2023 G. Gastouniotis coll. and det.; collected on *Cercis siliquastrum*.

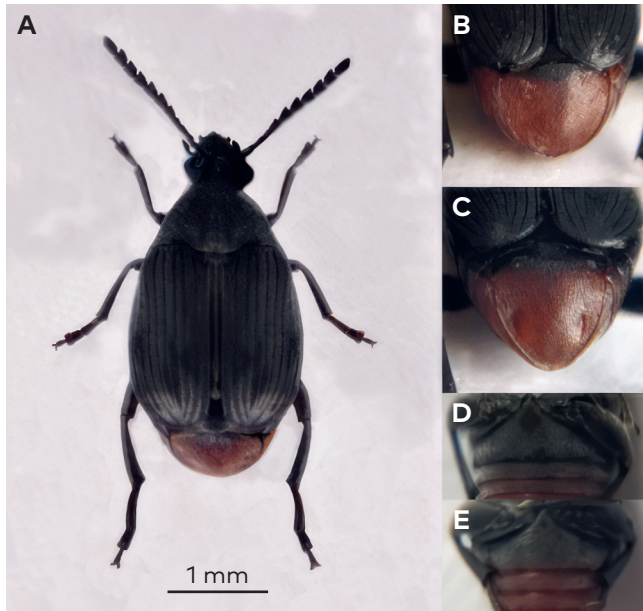


Figure 1. *Bruchidius siliquastri* Delobel, 2007: **A** female habitus; **B** pygidium of male; **C** pygidium of female; **D** male ventrite 1; **E** female ventrite 1.



Figure 2. Distribution map of *Bruchidius siliquastri* in Greece [blue dot – collected specimens; red dot – published records from nearby localities in Bulgaria (Stojanova et al. 2011)] and new record of *Bruchidius terrenus* (orange dot).

Discussion

Bruchidius siliquastris is reported for the first time from Greece, increasing the known distribution of the species in Europe. Due to the number of localities where the species was found in Peloponnese and Central Greece (Fig. 2), it is expected to be widely distributed in Mainland Greece. It is also expected to be found in Northern Greece due to records in nearby localities in Bulgaria (Stojanova et al. 2011). The presence of the species in Greece is similar to that of *Bruchidius terrenus* (Sharp, 1886), as both feed on seeds of ornamental plants, *Cercis siliquastrum* and *Albizia julibrissin* Durazz respectively. Currently, have no economic importance, unlike other non-native Bruchinae such as *Acanthoscelides obtectus* (Say, 1831) and *Callosobruchus maculatus* (Fabricius, 1775), which are serious pests of stored legumes (Yus-Ramos et al. 2014).

The majority of specimens were collected on *Cercis siliquastrum* leaves while a single individual was found hiding among the seed pods. This specimen was collected in Athens, and was hiding alongside a single individual of *Bruchidius terrenus*, probably emerged from a nearby *Albizia julibrissin*. This is only the second recorded locality for *B. terrenus* in Greece, and the southernmost, after the first record in 2010 from pods of *Albizia julibrissin* collected in 2009 from Thessaloniki (Stojanova 2010).

Acknowledgements

We are highly grateful to Robert S. Jacobson and the two anonymous reviewers for their constructive suggestions which improved the quality of the manuscript.

References

- Anton KW (2010) Bruchinae. In: Löbl I & Smetana A: Catalogue of Palearctic Coleoptera, vol. 6: Chrysomeloidea, p. 339–353. Apollo Books, Stenstrup (Denmark).
- Barclay MVL (2014) *Bruchidius siliquastris* Delobel, 2007 (Chrysomelidae, Bruchinae) new to Britain. *Coleopterist* 23: 41–44.
- Borowiec L, Anton KW (1993) Materials to the knowledge of seed beetles of the Mediterranean Subregion (Coleoptera: Bruchidae). *Annals of the Upper Silesian Museum in Bytom (Entomology)* 4: 99–152.
- Gavrilović B, Savić D (2013) Invasive bruchid species *Bruchidius siliquastris* Delobel, 2007 and *Megabruchidius tonkineus* (Pic, 1914) (Insecta: Coleoptera: Chrysomelidae: Bruchinae) new in the fauna of Serbia - review of the distribution, biology and host plants. *Acta Entomologica Serbica* 18: 129–136.
- Hanssens B (2009) Roodgatjes. *L'Echo du Marais* 091 19–20. https://www.cebe.be/cebe/images/publications/echo_marais_091.pdf

- Hizal E, Parlak NN (2013) *Bruchidius terrenus* and *Bruchidius siliquastris* (Coleoptera: Chrysomelidae: Bruchinae) - first records for Turkey. *Florida Entomologist* 96: 66–70 <https://doi.org/10.1653/024.096.0109>
- Jeong Y, Jeong KJ, Hong KJ (2022) New Record of *Bruchidius siliquastris* Delobel (Coleoptera, Chrysomelidae, Bruchinae) in Korea. *Korean Journal of Applied Entomology* 61(4): 665–668 <https://doi.org/10.5656/KSAE.2022.11.0.050>
- Kergoat GJ, Delobel P, Delobel A (2007) Phylogenetic relationships of a new species of seed-beetle infesting *Cercis siliquastrum* L. in China and in Europe (Coleoptera: Chrysomelidae: Bruchinae: Bruchini). *Annales de la Société entomologique de France* 43: 265–271. <https://doi.org/10.1080/00379271.2007.10697522>
- Kollár J, Hrubík P, Tkáčová S (2009) Monitoring of harmful insect species in urban conditions in selected model areas of Slovakia. *Plant Protection Science* 45: 119–124. <https://doi.org/10.17221/4/2009-PPS>
- Martynov VV, Nikulina TV (2015) *Bruchidius siliquastris* Delobel, 2007 (Coleoptera: Chrysomelidae: Bruchinae), a new invasive species of seed-beetles in the Crimea peninsula. *Euroasian Entomological Journal* 14: 552–553. <https://kmkjournals.com/upload/PDF/EEJ/14/201514607.pdf>
- Pintilioaie AM, Mancu CO, Fusu L, Mitroiu MD, Rădac AI (2018) New invasive bruchine species (Chrysomelidae: Bruchinae) in the fauna of Romania, with a review on their distribution and biology. *Annales de la Société entomologique de France (N.S.)* 54(5): 401–409. <https://doi.org/10.1080/00379271.2018.1506265>
- Ponel P, Fadda S, Lemaire JM, Matocq A, Cornet M, Pavon D (2011) Arthropodes de la Principauté de Monaco. Coleopteres, Heteropteres. Aperçu sur les Fourmis, les Isopodes et les Pseudoscorpions. Monacobiodiv. Rapport final - 1er février 2011, 51–52. [in French]
- Rheinheimer J, Hassler M (2013) *Bruchidius siliquastris* Delobel, 2007 (Coleoptera: Bruchidae) sowie *Bruchophagus sophorae* (Crosby et Crosby, 1929) (Hymenoptera: Chalcididae) neu für Deutschland. *Mitteilungen des Entomologischen Vereins Stuttgart* 48: 3–4. [in German]
- Ricci ME, Zampetti M, (2005) Contributo alla conoscenza dei bruchidi dell'Europa (Coleoptera Bruchidae). *Entomologica, Bari* 39: 121–167. [in Italian] <https://doi.org/10.15162/0425-1016/772>
- Šefrová H (2010) Faunistic records from the Czech Republic-302 Coleoptera: Chrysomelidae: Bruchinae. *Klapalekiana* 46: 229–230.
- Stojanova A (2010) Seed beetle *Bruchidius terrenus* (Sharp) (Coleoptera: Chrysomelidae: Bruchinae) - New invasive species to the Bulgarian fauna. *Biotechnology & Biotechnological Equipment* 24(1): 646–647. <https://doi.org/10.1080/13102818.2010.10817914>
- Stojanova A, György Z, László Z (2011) A new seed beetle species to the Bulgarian fauna: *Bruchidius siliquastris*, Delobel (Coleoptera: Chrysomelidae: Bruchinae). *Ecologia Balkanica* 3(1): 117–119. <http://web.uni-plovdiv.bg/mollov/EB/2011/eb.11205.pdf>
- Yus Ramos R, Angelini F (2018) Contribución al conocimiento de los brúquidos (Coleoptera, Bruchidae) de Grecia. *Boletín de la Asociación Española de Entomología* 42(3/4): 351–389. [in Spanish]

- Yus Ramos R, Bocci M (2017) *Bruchidius siliquastris* Delobel, 2007 new species for the Italian fauna (Coleoptera, Bruchidae). Boletín de la Sociedad entomológica de España 41: 227–231.
- Yus Ramos R, Coello García P, Ventura Pérez D, Bensusan K, Pérez C (2009) Ciclo biológico de *Bruchidius siliquastris* Delobel, 2007 (Coleoptera: Bruchidae) en *Cercis siliquastrum* L. primera cita para España peninsular. Boletín de la Sociedad Entomológica Aragonesa 45: 349–356. [in Spanish]
- Yus Ramos R, Ventura D, Bensusan K, Coello-García P, György Z, Stojanova A (2014) Alien seed beetles (Coleoptera: Chrysomelidae: Bruchinae) in Europe. Zootaxa 3826: 401–448. <https://doi.org/10.11646/zootaxa.3826.3.1>