

Bruchidius siliquastris Delobel, 2007 (Coleoptera: Chrysomelidae: Bruchinae), a new invasive species of seed-beetles in the Crimea peninsula

Bruchidius siliquastris Delobel, 2007 (Coleoptera: Chrysomelidae: Bruchinae) — новый инвазивный вид зерновок в фауне Крыма

V.V. Martynov, T.V. Nikulina
В.В. Мартынов, Т.В. Никулина

Public Institution Donetsk Botanical Garden, Illicha Prosp. 110, Donetsk 83059 Ukraine. E-mail: martynov.scarab@yandex.ua, nikulinatanya@mail.ru.

Государственное учреждение Донецкий Ботанический сад, просп. Ильича 110, Донецк 83059 Украина.

Key words: *Bruchidius siliquastris*, Crimea, first record, invasive species.

Ключевые слова: *Bruchidius siliquastris*, Крым, первое указание, инвазивный вид.

Abstract. A new invasive seed-beetle *Bruchidius siliquastris* Delobel, 2007 associated with leguminous trees of the genus *Cercis* (Fabaceae) is recorded from Crimea peninsula for the first time. It was collected in September 2015 in two localities, Botanical Garden of V.I. Vernadsky Crimean Federal University and Nikitskiy Botanical Garden.

Резюме. Впервые для Крымского полуострова приводится *Bruchidius siliquastris* Delobel, 2007, новый инвазивный вид зерновок (Coleoptera: Chrysomelidae: Bruchinae), связанный с древесными бобовыми рода *Cercis* (Fabaceae). Вид выявлен в сентябре 2015 г. в ботаническом саду Крымского федерального университета им. В.И. Вернадского и в Никитском ботаническом саду.

Bruchidius siliquastris Delobel, 2007 was described by Delobel [Kergoat et al., 2007] on the materials collected in southern France (Montpellier) in 2003. The beetles were emerged from pods of *Cercis siliquastrum* L. (Fabaceae) and proved to be a new species for science and without known relatives in Europe. The new species was found to be conspecific with specimens bred in China from an unidentified species of *Cercis*. Based on the foregoing, the author of description has supposed an eastern Asian origin for this species [Kergoat et al., 2007]. Later *B. siliquastris* was found in many European countries. Currently the species is also known from Hungary (2005), Slovakia (2006), Bulgaria (2009), Spain (2009), Belgium (2009), Czech Republic (2010), Serbia (2011), Turkey (2012), Deutschland (2012), and Britain (2014) [Kollár, 2008; Yus Ramos et al., 2009; Šefrová, 2010; Gavrilovič, Savič, 2013; Rheinheimer, Hassler, 2013; Hizal, Parlak, 2013; Barclay, 2014].

Bruchidius siliquastris Delobel, 2007

Fig. 1–4.

Material. Crimea: Simferopol, Botanical Garden of V.I. Vernadsky Crimean Federal University, N 44°56'11",

E 34°08'01", 17.09.2015 — 1♂ (dead beetles (Fig. 1) were found in seeds of *Cercis* sp.); Nikita Vill. environs, Nikitskiy Botanical Garden, N 44°31'01", E 34°14'46", 18.09.2015, — 1♂.

Host plants. Larvae of *B. siliquastris* develop in seeds of various species of the genus *Cercis* (red-buds). This small genus includes 6 to 10 species occurred in North America, the Mediterranean region, South East and East Asia [Trees..., 1958]. Decorative properties of *Cercis* spp. became the reason of active introduction and usage of different species of the genus in botanical garden and cities. *B. siliquastris* is found on *Cercis siliquastrum* (Judas tree) in all European countries. In addition, the species is found on North American *C. canadensis* in Slovakia [Kollár, 2008]. Development of this seed beetle is observed on North American *C. occidentalis* and Asian *C. chinensis* and *C. griffithii* in Hungary [Stojanova et al., 2011]. However, the species is absent in old European collections [Kergoat et al., 2007]. According to Kergoat et al. [2007] occurrence of the species in Europe can be explained by recent change of host plants from Oriental species of *Cercis* to *C. siliquastrum*. *B. siliquastris* became widespread species in Europe because of *Cercis siliquastrum* has the most wide range among all species of the genus *Cercis*. Chinese species of the genus are cultivated in Europe for a long time. For example, *C. chinensis* is widely used from the middle of the XIX century as fruit-bearing tree in many gardens of the Black Sea coast of Crimea and the Caucasus [Zamyatnin, 1958].

Remarks. Visual examination and opening of *Cercis* seeds of current year crop collected in Nikitskiy Botanical Garden revealed exit holes (Fig. 2), last instars larvae (Fig. 3) and entry holes (Fig. 4), in 35 % of the seeds (n = 100). High percentage of infested seeds definitely indicates the large population of the species. Mites of the genus *Pyemotes* (Pyemotidae) were found on wintering larvae of *B. siliquastris*.



Figs 1–4. *Bruchidius siliquastris* Delobel, 2007: 1 — imago, female; 2 — exit hole on the seed *Cercis*; 3 — larva; 4 — entry hole.

Рис. 1–4. *Bruchidius siliquastris* Delobel, 2007: 1 — имаго, самка; 2 — входное отверстие в семени *Cercis*; 3 — личинка; 4 — лётное отверстие.

Acknowledgements

The authors thank S.P. Ivanov (Simferopol) for his invaluable help with the organization of excursions and A.A. Khaustov (Tyumen) for help with the identification of mites.

References

- Barclay M.V.L. 2014. *Bruchidius siliquastris* Delobel, 2007 (Chrysomelidae, Bruchinae) new to Britain // *The Coleopterist*. Vol.23. No.2. P.41–44.
- Gavrilovič B., Savič 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*. Vol.18. No.1/2. P.129–136.
- Hızal E., Parlak N.N. 2013. *Bruchidius terrenus* and *Bruchidius siliquastris* (Coleoptera: Chrysomelidae: Bruchinae) — first records for Turkey // *Florida Entomologist*. Vol.96. No.1. P.66–70.
- Kergoat G.J., 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*. Vol.43. No.3. P.265–271.
- Kollár J. 2008. Význam biotických činiteľov poškodzujúcich dreviny v urbanizovanom prostredí. Autoreferát dizertačnej... philosophiae doctor. Nitra. 20 p.
- 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*, Jg.48. S.3–4.
- Šefrová H. 2010. Faunistic records from the Czech Republic-302 // *Klapalekiana*. Vol.46. P.229–230.
- Stojanova A. M., György Z., and László Z. A. 2011. New seed beetle species to the Bulgarian fauna: *Bruchidius siliquastris*, Delobel (Coleoptera: Chrysomelidae: Bruchinae) // *Ecologica Balcanica*. Vol.3. No.1. P.117–119.
- Yus Ramos R., Bensusan K., Pérez C. 2009. *Bruchidius siliquastris* Delobel (2007), una nueva especie para la fauna ibérica de brúquidos (Coleoptera: Bruchidae) // *Boletín de la Sociedad Entomológica Aragonesa*. No.44. P.151–159.
- Zamyatnin B.N. 1958. [Fam. Fabaceae] // Sokolov S.Ya. (Ed.): Trees and shrubs of the USSR. Wild, cultured and perspective for the introduction. Vol.4. Moskva, Leningrad: AN SSSR. P.40–44. [In Russian].

Поступила в редакцию 3.12.2015