

First record of alien cockroach *Cariblatta imitans* (Blattodea: Ectobiidae) in Europe

První nález nepůvodního švába *Cariblatta imitans* (Blattodea: Ectobiidae) v Evropě

Keywords: Blattodea, Ectobiidae, Slovakia, greenhouse, alien species

Abstract. The surviving population of the alien cockroach *Cariblatta imitans* was discovered in the Victoria greenhouse of Botanical Garden of Pavol Jozef Šafárik University in Košice, Slovakia. *Cariblatta* population probably originates from the Nicaragua, where some plants were collected in 2000 during an expedition with participation of Botanical Garden. These records are the first from the whole Europe and the first ones outside the species' native range.

During last years, numerous specialists surveyed arthropod fauna of Slovak greenhouses. No attention was paid to Blattodea. We report the first records of *Cariblatta imitans* Hebard, 1916 from Slovakia, which are the first records from the whole Europe.

Botanical Garden of Pavol Jozef Šafárik University in Košice is located in the northwestern part of the Košice Basin at the foot of the eastern part of the Slovak Ore Mountains. It was founded in 1950 and currently covers an area of 30 ha. There are heated greenhouses with tropical and subtropical vegetation, they cover an area of 3500 m². Since 2006, biological control methods against plant pests started to be used in several selected greenhouses along with complete abandonment of classical pesticides to the date. In connection with it, much more attention is paid to the occurrence of various invertebrates. Plant pests, their natural enemies and also seemingly indifferent animals are registered continuously. Various methods are used: short notations during visual inspections, individual sampling, sticky traps, pitfall traps, photographic documentation.

Material was identified using HEBARD (1916) and FISK & WOLDA (1979). The nomenclature follows BECCALONI (2014).

Material

Slovakia or., Košice, Victoria greenhouse of Botanical Garden of Pavol Jozef Šafárik University, 48°44'08"N, 21°14'17"E, 12.I.2013, 2 specimens, 1 ♂ coll. Municipal museum Mariánské Lázně (hereafter MML); 25.I.2013, 2 ♀, coll. MML; 1.II.2013, 35 specimens., 1 ♂, 1 ♀, 1 nymph coll. J. Hromádka, the rest of the material coll. MML. For all the material: leg. M. Suvák, det. J. Hromádka.

The first record of this cockroach species was done in November 2011, when 1 individual was registered with mealybugs on *Hornstedtia rubra* (Blume) Valeton 1921. in Victoria greenhouse. But even later, such observations were relatively rare due to mostly cryptic way of life of the species. Series of pitfall traps installed in all main greenhouses applied one week in 2012 and 2014 resulted in no cockroach specimens. In 2013, some juvenile and adult cockroaches were captured only in pitfall traps in Victoria greenhouse. It was in accordance with individual sampling, as no cockroach individuals were sampled from other greenhouses. It can not be excluded that *C. imitans* can live outside this tropical greenhouse but we have no data about it to the date.

Cariblatta imitans was described from 2 ♂♂ and 2 ♀♀ from Corozal, Corozal Zone, Panama, collected among loose leaves lying on leaf-mould in heavy jungle (HEBARD 1916). Up to now, this species was known from Panama and Costa Rica only (HEBARD 1916; PRINCIS 1969; FISK 1971; FISK & WOLDA 1979).

It is supposed that population of this cockroach in greenhouses in Košice originates from Nicaragua. In the year 2000, some plant material was collected there during an expedition with participation of Botanical Garden of P. J. Šafárik University.

Accidentally introduced individuals of *C. imitans* could survive and reproduce especially in the Victoria greenhouse with stable conditions, high temperatures and non-pesticide management in comparison with some other greenhouses of this botanical garden. Various stages of this cockroach species can be found mainly on the ground, under arranged wood pieces but sometimes also above ground on the leaves of tropical vegetation grown in the mentioned greenhouse.

Our data represents the first records of alien *C. imitans* for Slovakia and the whole Europe and as well as the first records outside the species' native range (Panama and Costa Rica, probably also neighbouring Nicaragua).

BECCALONI G. W. 2014: *Caribblatta imitans* Hebard, 1916 [online]. Cockroach Species File Online. Dostupné z WWW: <<http://cockroach.speciesfile.org/common/basic/Taxa.aspx>> [cit. 31.VIII.2014]. – FISK F. W. 1971: An annotated check list of Costa Rican cockroaches. Proceedings of the Entomological Society of Washington, 73(4): 431–444. – FISK F. W. & WOLDA H. 1979: Keys to the Cockroaches of Central Panama Part I: Flying Species. Studies on Neotropical fauna and Environment, 14, 189 pp. – HEBARD M. 1916: A new genus, *Caribblatta*, of the group Blattellites (Orthoptera, Blattidae). Transactions of the American Entomological Society, 42(2): 147–186. – PRINCIS K. 1969: Blattaria: subordo Epilamproidea: fam. Blattellidae, pars 13. In: BEIER M. (ed.): Orthopterorum catalogus, Dr. W. Junk N. V. s³, Gravenhage, pp. 713–1038.

Libor DVOŘÁK¹⁾, Jiří HROMÁDKA²⁾ & Martin SUVÁK³⁾

¹ Municipal Museum Mariánské Lázně, Goethovo náměstí 11, CZ-353 01 Mariánské Lázně, Czech Republic, e-mail: lib.dvorak@seznam.cz

² U Bažantnice 362, CZ-159 00 Velká Chuchle, Czech Republic, e-mail: jiri.hromadka@atlas.cz

³ Botanical Garden of P. J. Šafárik University, Mánesova 23, SK-043 52 Košice, Slovakia, e-mail: martin.suvak@upjs.sk

Fig. 1. Adult *C. imitans* (dorsal view). Victoria greenhouse of Botanical Garden of P. J. Šafárik University in Košice. Scale bar: 5 mm



Fig. 2. Juvenile *C. imitans*. Victoria greenhouse of Botanical Garden of P. J. Šafárik University in Košice. Scale bar: 5 mm



Fig. 3. Ootheca. Victoria greenhouse of Botanical Garden of P. J. Šafárik University in Košice. Scale bar: 1 mm

