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First records of *Dasineura oxycoccana* (Diptera: Cecidomyiidae) from the Czech Republic

První nálezy bejlomorky *Dasineura oxycoccana* (Diptera: Cecidomyiidae) z České republiky

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Abstract. The gall midge *Dasineura oxycoccana* (Johnson, 1899) is recorded from the Czech Republic for the first time. It is an alien species in Europe, introduced from North America. Larvae damage vegetative tips of various species of the genus *Vaccinium*. It is a potential pest of commercial *Vaccinium* crops.

INTRODUCTION

Gall midges (Cecidomyiidae) are one of the most species rich families of the order Diptera, infraorder Bibionimorpha. This family contains the largest group of gall-inducing animals in the world (Espírito-Santo & Fernandes 2007). Gagné & Jaschhof (2017) listed 6590 known species and 812 genera of living and fossil gall midges in their world catalogue. Most larvae of gall midges are phytophagous, fewer species are mycophagous or zoophagous. Phytophagous larvae are closely associated with host plants and many of them are gall-inducing. Most gall midge species are important components of biotopes (Skuhravá et al. 1984). Some of them are serious pests of cultivated plants and forest trees (Darvas et al. 2000, Skuhravá & Roques 2000). Several species are used in the biological control of pest species and weeds (Harris 2004). In the Czech Republic, 615 species of gall midges are known to occur (Skuhravá et al. 2018). There are fourteen alien species recorded in Europe, and eight of these occur in the Czech Republic (Skuhravá 2006, Skuhravá et al. 2010).

Dasineura oxycoccana (Johnson, 1899) is a species native to North America. Larvae develop in terminal buds of several species of *Vaccinium* and cause leaf distortion and blackening, which results in the death of the buds. Two or more generations develop per year. It is considered to be a serious pest in North America (Barnes 1948, Gagné 1989, Hahn & Isaacs 2012).

Dasineura oxycoccana was firstly recorded in Europe in Italy in 1996 (Bosio et al. 1998) and has subsequently been recorded from Slovenia (Seljak 2004), Latvia (Apenite & Cinitis 2006), Britain (Collins et al. 2010) and Croatia (Plažanin et al. 2012). In August 2016 several

adults of *D. oxycoccana* and damaged buds of *Vaccinium corymbosum* were observed in the ornamental tree nursery in Žehušice in central Bohemia.

MATERIAL AND METHODS

All adults and larvae of *Dasineura oxycoccana* were received during routine surveys by the CISTA (Central Institute for Supervising and Testing in Agriculture). Plant health inspectors noticed damaged *Vaccinium* plants during the inspection. Their discovery was subsequently confirmed both by the Division of Diagnostics of the Central Institute for Supervising and Testing in Agriculture and by the taxonomic specialist (M. Skuhravá). Sweeping and yellow sticky traps were used to collect the adults. To gather eggs and larvae, we picked typically infested terminal shoot buds. Some of the adults were also reared under laboratory conditions.

Adults were preserved in 70% ethanol and mounted on microscope slides using Hoyer's medium. Part of the material is preserved in the collections of the CISTA in Olomouc and several adults are in the collection of Marcela Skuhravá (Praha, Czech Republic).

RESULTS

Dasineura oxycoccana (Johnson, 1899)

Material examined. Bohemia centr., Žehušice (6058), 49°57′58″N, 15°24′37″E, 220 m a. s. l., 4.viii.2016, 11 ♀♀, sweeping and on yellow sticky traps in the ornamental tree nursery with cultivated blueberry *Vaccinium corymbosum*, T. Klailová & J. Zajíc leg., T. Klailová, J. Zajíc & B. Brandová det., M. Skuhravá rev.; Moravia bor., Hvozdečko (6367), 49°41′20″N, 16°55′40″E, 445 m a. s. l., 19.ix.2016, 1 ♀, individual collecting from the infested plants in the blueberry field and rearing, B. Brandová & M. Březíková leg., B. Brandová & M. Březíková det., M. Skuhravá rev. First records from the Czech Republic.

Distribution. In the Czech Republic all adults, larvae and damaged plants were found on cultivated blueberry *Vaccinium corymbosum*. Attacked plants can be easily recognised because of the typical terminal shoot damage.

On the basis of a quick survey done by CISTA during autumn 2016, we can conclude that this species probably occurs quite frequently and its occurrence is connected with plantations of *Vaccinium corymbosum* in plant nurseries and garden centres. During this survey, about 20 localities with typically infested plants and larvae inside rolled leaves were discovered (names according to the land register; **Bohemia**: Česká Lípa, Čimelice, Domažlice, Horní Beřkovice, Jevany, Jičín-Soudná, Kumburský Újezd, Lučkovice, Nové Strakonice, Obříství, Sušice, Teplice-Trnovany, Valdice, Žlábek; **Moravia**: Budišov, Frýdlant nad Ostravicí, Kostelec na Hané, Prostějov, Provodov na Moravě, Přemyslovice, Příbor, Sedlnice, Sedliště ve Slezsku, Smržice, Strážnice na Moravě).

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Fig. 1. Buds and young leaves of *Vaccinium corymbosum* damaged by larvae of *Dasineura oxycoccana* (Johnson, 1899) found in Žehušice in central Bohemia in July 2016. Photography Táňa Klailová.
Obr. 1. Pupeny a mladé listy borůvky *Vaccinium corymbosum* poškozené larvami bejlomorky *Dasineura oxycoccana* (Johnson, 1899), zjištěné v Žehušicích ve středních Čechách v červenci 2016. Fotografie Táňa Klailová.

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SOUHRN

V roce 2016 byl učiněn a potvrzen první nález bejlomorky *Dasineura oxycoccana* (Johnson, 1899) pro Českou republiku. Jedná se o nepůvodní druh pocházející ze Severní Ameriky. Larvy této bejlomorky způsobují typické poškození koncových pupenů borůvek *Vaccinium corymbosum*, což z tohoto organismu činí potenciálního škůdce pěstovaných borůvek.