

FIRST RECORD OF *CYDALIMA PERSPECTALIS* (WALKER, 1859) (LEPIDOPTERA: CRAMBIDAE) IN BREST (BELARUS)

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Introduction

Biological invasion – the invasion of ecological systems by non-indigenous species, is a very important component of global environmental change (Vitousek *et al.*, 1996) and imposes significant economic and ecological damages (Lars & Santanu, 2008). The box tree moth *Cydalima perspectalis* (Walker, 1859) is native to East Asia (Inoue *et al.*, 1982) and invasive species in Europe (Kenis *et al.*, 2013). *C. perspectalis* damages box trees (*Buxus* spp.). Larvae almost destroy box tree plantations in cities due to the complete overeating of leaves and young bark by caterpillars, cause drying out and death (Leuthardt & Baur, 2012). In Switzerland, Germany (Kenis *et al.*, 2013), Abkhazia (Zhukova *et al.*, 2017), Georgia (Matsiakh *et al.*, 2018), serious and even catastrophic overeating of box trees were established. A climate model applied by Nacambo *et al.* (2014) suggests that *C. perspectalis* is likely to continue its spread across Europe, except for Northern Fennoscandinavia, Northern Scotland, and high mountain regions in Southern and Central Europe.

The first registration of the species on the territory of Belarus was carried out in the Kamenets-city (Brest region) on July 21, 2019 in green stands. Information is provided on web resource (Seewood, 2019).

Material and Methods

The material was collected on *Buxus sempervirens* L. in Brest recreation park (52.094293N, 23.676663E), 16 07 2020 by A. Sinchuk, N. Sinchuk and in the botanical garden of Ecology Center (Brest State A. S. Pushkin University, 52.109594N, 23.710687E) 24 08 2020 by A. Kolbas. The species was identified by imago (Richard & Matthias, 2010; Strachinis *et al.*, 2015). The specimen is deposited in private collection of A. Sinchuk.

Results and Discussion

Cydalima perspectalis was first recorded in Europe in 2006, in southwest Germany (Krüger, 2008). At present *C. perspectalis* is known from Netherlands, Switzerland, France (Lopez-Vaamonde *et al.*, 2010), Liechtenstein, Austria, Belgium, Italy, Hungary,

Czech Republic, Romania, Slovenia, Turkey, Croatia, Russia, Slovakia, Denmark, Georgia, Spain, Bulgaria, Bosnia and Herzegovina, Serbia (Bury *et al.*, 2017), Greece (Strachinis *et al.*, 2015), Ukraine, Albania, Luxemburg, Poland (Bury *et al.*, 2017), Lithuania (Paulavičiūtė & Mikalauskas, 2018).

The active spread of the box tree moth in the green stands of Belarus can lead to serious consequences for *Buxus sempervirens* L. This plant is widely used in green buildings to form green hedges, borders, as well as for green compositions and sculptures. In Brest and the region, plantations of boxwood are widespread (Kolbas *et al.*, 2017), some plants are about 100 years old (Fedoruk, 2006). Occasionally, it is grown in the form of single specimens, small groups, and green borders, mainly in the western part of the Brest region (Fedoruk, 1985).

In the central part of Brest, we caught an imago, collected larvae and pupae of *Cydalima perspectalis* (Fig. 1), and revealed significant damage (Fig. 2) to plants 20–30 years old. It is noticed that the use of the tank mixture of system ("Aktara") and contact ("Karate") insecticides has previously shown high efficiency in pest control in garden of Ecology Center. There is a search for biological methods of pest control because of box tree plantations are limited by places of recreation and an increasing amount of people.



Fig. 1. *Cydalima perspectalis* (Walker, 1859) larva (A), pupa (B) (Photo: A. Kolbas) imago (C) (Photo: A. Sinchuk) Brest, Belarus (from left to right)



Fig. 2. Damage of boxwood leaves by *Cydalima perspectalis* (Photo: N. Sinchuk (A), A. Kolbas (B))

At present, isolated infected plants have been detected. However, unless it is done in sanitary measures to protect the boxwood plantations, Brest may become the primary hotspot of the settlement of the box tree moth throughout the territory of Belarus.

Thus, in this publication, we report the first sighting of the box tree moth in Belarus according to materials from the web resource. The further record of spread of *C.perspectalis* throughout the country was noticed due to the initial registration in Brest. The concern was expressed about the emergence of a primary outbreak in Brest for the spread of box tree moth throughout the territory of Belarus.

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Naujas pranešimas apie *Cydalima perspectalis* (Walker, 1859) (Lepidoptera: Crambidae) aptikimą Breste (Baltarusija)

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Straipsnyje pateikiami duomenys apie pirmą kartą Baltarusijoje, Bresto miesto želdynuose, aptiktą *Cydalima perspectalis* rūšį. Reiškiamas nuogąstavimas, kad Breste gali susiformuoti pirminis židinytis, iš kurio šis drugys galėtų išplisti po kitas Baltarusijos vietas.

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