

The European Pepper Moth, *Duponchelia fovealis* Zeller (Lepidoptera: Crambidae) Discovered in Gyeonggi-do, Korea

Young Su Lee*, Young Mi Park¹, Gwan-Seok Lee², Hee A Lee, Hee OK Min and Hyun Ju Lee

Gyeonggi Agricultural Research and Extension Services, Hwaseong 18388, Korea

¹Animal and Plant Quarantine and Inspection Agency, Incheon 22382, Korea

²National Institute of Agricultural Sciences, Wanju 55365, Korea

한국에서 *Duponchelia fovealis* Zeller의 발견보고

이영수* · 박영미¹ · 이관석² · 이희아 · 민희옥 · 이현주

경기도농업기술원, ¹농림축산검역본부, ²국립농업과학원

ABSTRACT: The European pepper moth, *Duponchelia fovealis* Zeller (Lepidoptera: Crambidae) was discovered at Gyeonggi-do, Korea in 2015 and 2016. The moth has been known as a very harmful pest of ornamental plants worldwide. Larval damages to the *Euphorbia milii* stems and to the *Schlumbergera truncata* leaves were detected. After immediate spraying of insecticides, the moth was not found at the greenhouse any more.

Key words: Lepidoptera, Crambidae, *Duponchelia fovealis*, Korea

초록: 세계적으로 관상작물의 중요한 나방류 해충의 하나인 *Duponchelia fovealis* Zeller가 2015년과 2016년에 경기도에서 처음으로 발견되었다. 유충이 꽃기린(*Euphorbia milii*)의 줄기 속을 파고 들어가거나 계발선인장(*Schlumbergera truncata*)의 잎을 가해하는 피해가 확인되었다. 유충과 피해 확인 직후 합성농약을 살포하였고, 현재까지 추가적인 발견은 없었다.

검색어: 나비목, 포충나방과, *Duponchelia fovealis*, 한국

The European pepper moth *Duponchelia fovealis* Zeller (Lepidoptera: Crambidae) is a very harmful phytophagous pest that attacks 73 host plants including ornamental and horticultural plants (Zawadneak et al., 2015). This pest is native to the Mediterranean region and the Canary Islands and was first reported on ornamental plants greenhouse in Netherlands (Huisman and Koster, 1992). It has been widespread throughout the world including Europe, U.S.A., the Middle East, Africa, Turkey and Canada, recently (Efil et al., 2011).

On June 30 2015, following farmer's diagnosis request, we visited to a *Euphorbia milii* greenhouse located in Gwongju-si, Gyeonggi-do, the south Korea and found individuals of lepidopteran larvae near the soil surface and their damages on stem (Fig. 1). The rate of damaged plants was about 30%. We recommended emamectin-benzoate EC (5%) for controlling



Fig. 1. Damage of *Euphorbia milii* by *D. fovealis* larva.

this pest, and we could not find any damage anymore at the field. On July 14 2016, a farmer who was cultivating *Schlumbergera truncata* in Yongin-si requested to visit and to diagnose the unseen damage. We found individuals of lepidopteran larva damaging leaves (Fig. 2) and the farmer immediately sprayed indoxacarb WP (10%) for control the pest. Two weeks later, we visited the greenhouse but could not find any damage anymore. The emerging adult (Fig. 3) from the larvae we collected was identified by the second author as

*Corresponding author: yslee75@gg.go.kr

Received January 31 2018; Revised February 22 2018

Accepted February 23 2018



Fig. 2. Damage of *Schlumbergera truncata* by *D. fovealis* larva.

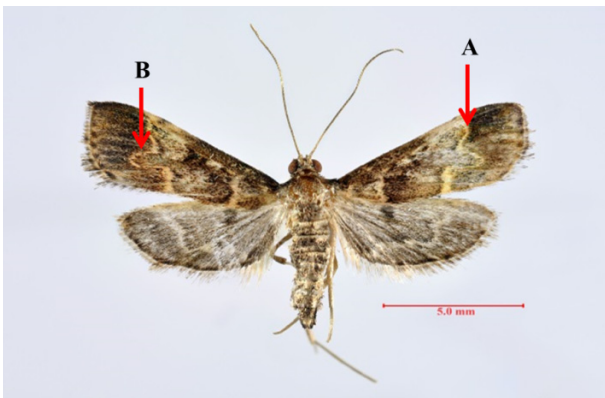


Fig. 3. Adult female *D. fovealis* collected from farmer's field, showing two identification features: yellowish-white transverse lines (A) and pronounced "finger" (B) that points towards the back edge of the wing (Ingerson-Mahar, 2014).

an exotic insect pest, *D. fovealis* in Korea for the first time.

We could not discover this pest in Gyeonggi-do at present, but it needs to be monitored consistently for economic horticultural crops including ornamental plants, pepper, lettuce etc.

Acknowledgements

This study was carried out with the support of the cooperative research program for Agricultural Life & Industrial Technology Development (project No. 116089-03-1-SB010), Korea Institute of Planning and Evaluation for Technology in Food, Agriculture and Forestry, Republic of Korea.

Literature Cited

- Efil, L., Efil, F., Atay, E., 2011. New pest *Duponchelia fovealis* Zeller (Lepidoptera: Pyralidae) in peanut field. *J. Appl. Biol. Sci.* 5(3), 65-67.
- Huisman, K.J., Koster, J.C., 1995. Interesting microlepidoptera from the Netherlands (Lepidoptera) in the year 1992. *Entomol. ber.* 55(4), 53-67.
- Ingerson-Mahar J., 2014. European pepper moth. *Plant & Pest Advisory*. Rutgers Cooperative Extension. [http:// plant-pest-advisory.rutgers.edu/european-pepper-moth/](http://plant-pest-advisory.rutgers.edu/european-pepper-moth/) (17 December 2014).
- Zawakneak M.A.C., Vidal H.R., Santos B., 2015. Lagarta-dacoroa, *Duponchelia fovealis* Zeller, in: Vilela, E.F., Zucchi, R.A. (Eds), *Pragas Introduzidas no Brasil, insetos e ácaros*. FEALQ, Piracicaba, pp. 280-298.