

# Silver Y moth *Autographa gamma*

The Silver Y moth is a highly polyphagous defoliator of many cultivated plants. Its accidental introduction to Michigan may pose a concern in particular to vegetable and floriculture nurseries and industries.

[Michigan risk maps for exotic plant pests.](#)

## Other common name

gamma moth

## Systematic position

Insecta > Lepidoptera > Noctuidae > *Autographa gamma* (Linnaeus).

## Global distribution

Widely distributed in Europe, Asia and Northern Africa.

## Quarantine status

The silver Y moth is listed as an exotic organism of high invasive risk to the United States (USDA-APHIS 2008). There are no establishment records in the United States, however, this and unidentified *Autographa* species have been intercepted hundreds of times at the U.S. ports of entry on imported vegetables, cut flowers, ornamentals and other plants.

## Plant hosts

There is an extended list of annual and perennial plants and cultivated and weedy plants. The host records include 311 plant species of various families, and the silver Y moth has been intercepted from about 130 plant taxa imported to the United States. Few examples of economically important hosts (vegetables and cut flowers) coming into Michigan are: arugula, chrysanthemum, cole crops, grape, lettuce, marigold, radish, and zinnia.

## Biology

A female moth lays eggs individually on the underside of leaves. After egg hatch, a caterpillar feeds on the host plants, mainly on leaves. Pupation takes place in a silvery cocoon attached to the underside of a leaf. Typically 2-3 generations develop per year in Asia and Europe, and adults are seen from May through October.

## Identification

- **Adult moth:** 35-40 mm wingspan; grey to grayish-brown in color with a white "y" shape on the forewing.
- **Caterpillar:** 24-40 mm in length; body color varies from green to almost black; often a dark line bordered by two



Adult. (Photo: P. Mazzei, Bugwood.org)



Adult. (Photo: J. Brambila, USDA APHIS PPQ, Bugwood.org)

thin and curved white lines runs over the back; a light yellow line runs over the sides; 3 pairs of abdominal legs are present.

- **Pupa:** 17-25 mm in length; green to black.
- **Eggs:** Oval shape, 0.5-0.6 mm in diameter, watery-white.

## Signs of infestation

- Presence of eggs, larvae or pupae on leaves (eggs and pupae are most likely to be found on the underside of leaves).
- Leaves with holes or skeletonized leaves.



Larva. (Photo: P. Mazzei, Bugwood.org)

### Management notes

Survey methods include visual inspections of host plants for eggs, larvae or pupae (Venette et al 2003). Sex pheromone lures for this moth are available.

### Economic significance to Michigan

The silver Y moth is considered a high risk for establishment in temperate and mixed broadleaf forest habitats (Venette et al 2003). With its broad host range and strong dispersal capability via adult flight, moth introduction into Michigan may potentially disrupt a wide variety of nursery and ornamental industries especially those dealing with vegetable and cut flower plants.

### Likely pathways of entry in Michigan

Historically, the majority of silver Y moth and *Autographa* sp. interceptions have been associated with cut flowers and vegetables imported from Europe.

\*\*\*If you find something suspicious on a susceptible host plant, please contact MSU Diagnostic Services (517-355-4536), your county extension office, or the Michigan Department of Agriculture (1-800-292-3939).\*\*\*

### References

- Anon. 2009. CAPS surveys for 2009. Ohio Department of Agriculture. ([http://www.agri.ohio.gov/divs/plant/caps/docs/CAPS\\_Surveys\\_2009.pdf](http://www.agri.ohio.gov/divs/plant/caps/docs/CAPS_Surveys_2009.pdf))
- Berdys. H. 2007. The garden safari: silver Y: *Autographa gamma*. ([http://www.gardensafari.net/english/picpages/autographa\\_gamma.htm](http://www.gardensafari.net/english/picpages/autographa_gamma.htm))
- Chumakov, M. A. and T. L. Kuznetsova. 2009. Interactive agricultural ecological atlas of Russia and neighboring countries: Pests: *Autographa gamma* L. –gamma moth. ([http://www.agroatlas.ru/en/content/pests/Autographa\\_gamma](http://www.agroatlas.ru/en/content/pests/Autographa_gamma))
- USDA-APHIS. 2008. Pests of national concern for fiscal year 2009. ([http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/pest\\_detection/downloads/survey/survey-2009/Appendix-G.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/pest_detection/downloads/survey/survey-2009/Appendix-G.pdf))
- Venette, R. C., E. E. Davis, H. Heisler, and M. Larson. 2003. Mini risk assessment: Silver Y moth, *Autographa gamma* (L.) [Lepidoptera: Noctuidae]. ([http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/pest\\_detection/downloads/pra/agamma.pra.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/pest_detection/downloads/pra/agamma.pra.pdf))
- Witzgall, P., T. Lindblom, M. Bengtsson, M. Tóth. 2004. The Pherolist. (<http://www.pherolist.slu.se/pherolist.php>)

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