

BLASTOBASIS GLANDULELLA – A POORLY STUDIED ALIEN PEST OF QUERCUS, JUGLANS AND AESCULUS FRUITS

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INTRODUCTION & AIM

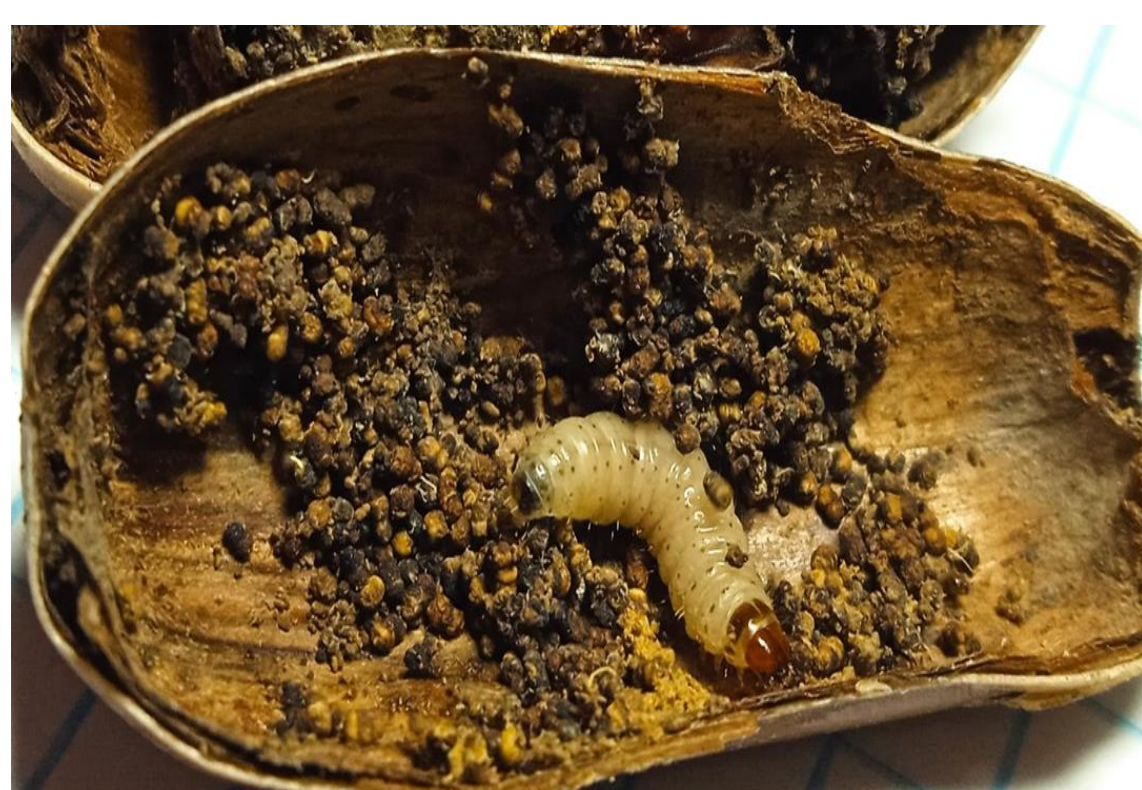
The acorn moth, *Blastobasis glandulella* (Riley, 1871) (Lepidoptera: Blastobasidae) is native to the USA. It was recorded in Europe at the beginning of the 1980s and in western Ukraine in 2009 as *Blastobasis huemeri*. This insect was often found in acorns already infested by weevils or damaged by rodents and was not considered a serious pest. In 2021, a large population of the acorn moth was recorded in oak plantations in Poland. Considering this information, we asked the foresters, and amateurs to send samples of acorns, chestnuts, walnuts, and other hard-shelled fruits from various regions to the Ukrainian Research Institute of Forestry & Forest Melioration to study the host range, prevalence, and rate of infestation, phenology of acorn moth and its associations with other fruit pests.

METHOD

The fruits collected on different dates and places were dissected. Part of the samples were reared in the laboratory to obtain pupae and adults.



B. glandulella moth reared in the laboratory Larva of *B. glandulella* in *Q. robur* acorn



The larva of *B. glandulella* in the fruit of *A. glabra*



The larva of *B. glandulella* in the fruit of *J. regia*



A pupa (in the acorn shell) and a larva in the same acorn



The larva of *B. glandulella* developed in the acorn of *Q. robur*, and then crawled to the acorn of *Q. rubra*



Pupa of *B. glandulella* in an acorn peduncle

RESULTS & DISCUSSION

The presence of *B. glandulella* was confirmed in 14 regions of Ukraine. It infests the fruits of *Quercus robur* L., *Q. rubra* L., *Q. castaneifolia* C. A. Mey, *Aesculus hippocastanum* L., *A. parviflora* Walt., *A. glabra* Willd., *Juglans cinerea* L. and *J. regia* L. The infestation rate depends on the region, fruit crop, weather, and forest structure, and exceeds 60 % of fruits in some samples. The development of all stages is very extended: the moths swarm from April to mid-September. The early swarming moths can be the first invaders in developing fruits. After consuming the cotyledons, the larva crawls to another fruit in the crown or on the forest litter, sometimes doing it several times before pupation. In August, the larva of *B. glandulella* may be found in prematurely fallen fruits with other carpophagous insects, their excrements, or molting skins. The larva of the last instar overwinters. In spring depending on the instar, it crawls to another fruit or pupates inside or outside the fruit, or in the forest litter.



In the spring, the larva of *B. glandulella* infested a living acorn and pupated in it after a short feeding



Current year acorns inhabited by *B. glandulella* (17 August 2023)



The previous year's acorn and a larva of *B. glandulella* (14 August 2023)

CONCLUSION

Blastobasis glandulella is a recently identified but widespread invasive pest in Ukraine that prevents seed regeneration of forests, obtaining the seeds of oak, walnut, and horse chestnut for forest and urban stands. Its biological features are described for the first time.

FUTURE WORK / REFERENCES

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