

RESEARCH REGARDING THE PRESENCE OF BROWN MARMORATED STINK BUG *Halyomorpha halys* Stål IN DOLJ COUNTY

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Keywords: *brown marmorated stink bug, invasive species*

ABSTRACT

The brown marmorated stink bug Halyomorpha halys Stål (Hemiptera, Pentatomidae) is a new invasive species that appeared in RO in 2015 and was reported by us in two localities in Dolj county in 2023. H. halys, attacks over 100 plant species, in Dolj county we report its occurrence on horticultural plantse : apricot, grape vine, tomato and pepper.

INTRODUCTION

Halyomorpha halys Stål (Hemiptera, Pentatomidae), also known as the brown marmorated stink bug, is an extremely polyphagous phytophagous (attacks more than 100 plant species: fruit trees: apple, pear, apricot, peach, nectarine, plum, mulberry, fruit bushes blackberry, raspberry, goji, ornamental plants: maple, cypress, paulownia, hibiscus, roses, lilac, linden, walnut, ash, oak, acacia, vegetables: tomatoes, eggplant, peppers, beans, vines, field crops: corn, soybeans)stink bug native to Asia (Lee D.H. et al. 2013) that has become an invasive pest of great economic importance in the U.S.A. (Leskey et al. 2012a, 2012b).

In Ontario, Canada, Fogain and Graff, in 2011, reported the presence of the species (Ciceoi et al. 2016). In Europe it was reported in Switzerland in 2007, (subsequently discovering that the first specimen was caught in 2004 in Liechtenstein on the Swiss border) (Arnold 2009), Germany (Heckmann 2012), Italy (Pansa et al. 2013), France (Callot & Brua 2013), Hungary (Vétek et al. 2014) and Romania (Macavei et al. 2015). In Romania, the presence of this invasive stink bug is signaled for the first time in the Botanical Garden of Bucarest (Macavei et al. 2015), having already been signaled in most counties and increases the concern about the consequences that this stink bug might have on crop production.

MATERIAL AND METHODS

Observations were conducted during 2023 in the Radomiru and Bucovăț Dolj county, area.

To identify of the brown marmorated stink bug were made visual inspection and collection of material directly by hand from plants or soil, analyzing samples with magnifier glass directly in the field or laboratory. We also took pictures of the affected plants by the brown marmorated stink bug.

RESULTS AND DISCUSSIONS

The adults have a specific brown-marmorated coloration. On antennas, legs and borders of abdomen, white and dark alternating bands are present. Males are usually smaller than females and can be distinguished by a posterior scoop, present on the ventral part (Medal et al. 2013). Adult's body length can vary in size, usually around 12-17 mm.

The eggs are light green and afterwards become white (Rice et al. 2014).

The neonates have black heads and orange-red abdomens; second instars are dark and have whitish abdomen with reddish spots; spines are present on the sides of head and pronotum of the younger nymphs; on the tibiae of last two instars a white band can be noticed (Rice et al. 2014, Wermelinger et al. 2008).

The brown marmorated stink bug can develop 1-2 generations per year (Leskey et al. 2012a, Rice et al. 2014) and overwinters as non-reproductive adults in natural and artificial shelters, such as human dwellings. Starting from April-May, the adults emerge from the overwintering sites and search for host plants. In order to become reproductively mature, females need a long mating and preoviposition period (Wermelinger et al. 2008). During late spring and summer, females of overwintering generation lay clusters of 20-30 eggs on the underside of leaf's host (Hoebeke & Carter 2003)

We found *Halyomorpha halys* at apricot in 13.07.2023, in the Radomiru Dolj county, area (figure 1).



Figure 1 *Halyomorpha halys* adults and younger nymphs on apricot

The damage is caused by adults and nymphs that extract fluids from host leaves and fruits, by inserting their proboscis into plant's tissue. Small necrotic areas are formed at the feeding site (figure 2).



Figure 2 Damage made by adults and nymphs at apricot

We also find *H. halys* attack grape vine *Vitis vinifera* L., tomato *Solanum lycopersicum* L., and pepper *Capsicum annuum* L., in 24.08.2023, in the Bucovăț Dolj county, area. During our researche we've noticed the cohabitation with *Nezara viridula* (Hemiptera: Coreidae) (figure 3).



Figure 3 *Halyomorpha halys* nymphs in cohabitation with *Nezara viridula* nymphs

CONCLUSIONS

We report the appearance of The brown marmorated stink bug *Halyomorpha halys* Stål (Hemiptera, Pentatomidae) in two localities in Dolj county. The brown marmorated stink bug was accidentally discovered in private gardens attacking horticultural plants: apricot, grape vine, tomato and pepper. We believe that in the future more attention will have to be paid to this new invasive pest. We also noticed an increased activity of stink bugs in general on horticultural plants,

which we can attribute to the high temperatures in winter and the lack of frost, which inevitably leads to an increased biological reserve.

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