



BOOK OF ABSTRACTS



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pheromone traps (AgBio, Tréce), set in different environments, all over the country, determined the presence of the species in inspected regions. Therefore, since 2018 BMSB was considered a well-established species in Serbia, with an increasing economic impact on agricultural production. Since the beginning of the monitoring, this species was recorded damaging hazelnuts, soybean, cherries, nectarines, and many other plant hosts, including ornamentals. Most of the annual captures (40%) in 2022 were recorded in hazelnut orchards, while 35% were from areas with different cultivated and non-cultivated hosts, mostly different fruit orchards and soybean fields. Since the beginning of monitoring, the decline in the BMSB population was recorded in 2022 for the first time, when 44% fewer specimens were sampled compared to the previous year. Population decrease could be explained with three hypotheses: 1) increased awareness of agricultural producers and increased action in BMSB control, 2) the activity of natural enemies, both predators and parasitoids which are recognizing this alien species as a host, and/or 3) a climate change, a period of long-term drought followed by high temperatures during the summer months, that might negatively affect the development and activity of BMSB.

Keywords: monitoring, BMSB, population decrease, damage

P031. The impact of soil microplastic on insect diversity and plastic decomposition by insects

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Plastic has been recognized as one of the leading pollutants of all ecosystems. This question has been rarely raised in Serbia, although there is a significant problem with the disposal of communal and agricultural waste. Many wild landfills have been created in past decades in forests near the plasticulture practicing areas and rivers. Plastic materials are degraded by the influence of UV light and various environmental factors, creating smaller particles called microplastics, which are recognized as significantly dangerous to ecosystems. Alluvial planes have been the most endangered due to the horizontal and vertical fluvial activities of the nearby rivers. The influence of soil microplastics on insect communities has not been widely considered and that is why the project EMIPLAST-SoS has been created to investigate insect communities in polluted and unpolluted alluvial soils in Serbia. We compare them in forest and agricultural ecosystems on similar alluvial soils in three locations near three largest rivers in Serbia. Preliminary results from one-season sampling are considered. During the project the influence of the different seasons effects will be investigated. Additionally, we have investigated the rate of plastic decomposition by five insect species in lab conditions (*Plodia interpunctella* Hubner, *Tenebrio molitor* L., *Zophobas morio* Fabr., *Achroia grisella* Fabr. and *Galleria mellonella* L.). *G. mellonella* expressed the highest and the most diverse decomposition of different plastic sources like plastic bags, sponges and styrofoam. The analyses of the obtained plastic residues are still underway.

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Keywords: agricultural waste, microplastics, plastic decomposition, insects diversity, *Galleria melonella*, *Tenebrio molitor*

P032. Effects of different tomato cultivars on biological parameters of tomato borer *Tuta absoluta*

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The tomato borer *Tuta absoluta* is one of the most destructive and difficult to control pests worldwide. Plant resistance traits could contribute in minimizing crop losses as one of the components of an IPM scheme. In the present study, the effects of four local (Tomatini, Strongyli, Klosaria, Makrouli) and one commercial tomato cultivar (Nisos) were investigated on the growth rate, pupal weight and fecundity of *T. absoluta* progeny on a wild pest population (DRAM 21-6). Pupal weight and fecundity were not affected by the different tomato variety cultivars. Tomatini increased the development time of tomato borer, particularly the duration from egg to pupation, while egg to adult duration was significantly increased only compared to Strongyli, Klosaria and Nisos. In addition, the effect of insecticide resistance phenotype on oviposition levels in 'no-choice' experiments was investigated. Three characterized populations (LAB 2021, DRAM 21-6 and TYMP 21-4, susceptible, moderate and highly resistant respectively) were used for this study, on selected cultivars (Tomatini and Nisos). Oviposition levels on Tomatini were significantly lower compared to Nisos for populations DRAM 21-6 and LAB 2021. In contrast, the insecticide-resistant TYMP 21-4 population exhibited comparable oviposition levels on both cultivars. Tomatini cultivar has traits that could potentially contribute in delaying pest development and oviposition levels, however, there are indication that development of insecticide resistance by *T. absoluta* populations may negatively affect the latter.

Keywords: *Tuta absoluta*, variety, host plant resistance

P033. Seasonal dynamics of the clearwing moth *Synanthedon myopaeformis* in an intensive apple orchards

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Synanthedon myopaeformis Borkhausen, 1789 (Lepidoptera, Sesiidae) is more and more important pest particularly in the orchard grafted on M9 and some other rootstocks. Attacked trees become exhausted over many years, their reproductive potential decreases and eventually they dry up, which is a big loss for plantations in intensive production that require high investments per hectare, especially if they are in full crop. In this paper, the influence of the apple varieties, the age of the plantations and the sampling period during the growing season of 2019, 2020 and 2021 on the abundance of the clearwing