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Analysis of the Profile of Volatile Compounds During the Growing Season in Leaves of *Aesculus* Trees Differing in Susceptibility to Horse Chestnut Leaf Miner (*Cameraria ohridella* Deschka & Dimić)

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The invasive pest *Cameraria ohridella* annually colonizes trees of the genus Aesculus across Europe, causing dark brown damage called mines that gradually cover the leaf surface. This study aimed to compare the VOC profiles emitted by chestnut tree leaves with varying susceptibility to the pest and assess whether these profiles change due to larval feeding. The research involved a susceptible tree (*Ae. turbinata*) and resistant trees (*Ae. glabra* and *Ae. parviflora*). Over three growing seasons (2014, 2015, 2016), leaf damage and the profile of VOCs were analyzed biweekly from May to September. Leaf damage increased progressively in *Ae. turbinata* during all seasons. The VOC profiles differed both qualitatively and quantitatively among the trees and across years. More VOCs were identified in 2014 and 2015 than in 2016. The susceptible *Ae. turbinata* exhibited the highest VOC diversity in 2014, aligning with severe leaf damage—profiles of VOCs in *Ae. turbinata* were different from resistant trees. Statistical analysis revealed that in 2014 and 2015, differences in the profile of VOCs between susceptible and resistant trees were apparent near pest-feeding dates. In 2016, VOCs significantly distinguished the profile of susceptible trees that were present before the appearance of the first generation of the pest.

Słowa kluczowe

Aesculus, Cameraria ohridella, VOCs

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