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IMPACT OF *CAMERARIA OHRIDELLA* INFESTATION ON CHEMICAL COMPOSITION OF AESCULUS GLABRA WILLD LEAVES IN DNIPRO CITY, UKRAINE

Summary. *This study examines how infestation by the horse chestnut leaf miner affects the metabolic profile of Aesculus glabra leaves in urban conditions in Dnipro, Ukraine. Using GC-MS analysis, researchers found a significant reduction in chemical diversity, with identified compounds decreasing from 114 to 62 in infested leaves. The results indicate a major metabolic reorganization under biotic stress, including reduced carbohydrate-related compounds and the emergence of metabolites linked to plant defense. These findings highlight adaptive biochemical responses and offer insights for developing sustainable strategies to manage leaf miner infestations in urban environments.*
Keywords: horse chestnut leaf miner, metabolic profile of leafmethanolic extract, induced chemical defense in woody plants.

This study investigates alterations in the metabolic profile of *Aesculus glabra* leaves in response to infestation by the horse chestnut leaf miner (*Cameraria ohridella*) under urban conditions in Dnipro, Ukraine. Chemical analysis of the leaves was conducted using gas chromatography coupled with mass spectrometry (GC-MS). A marked decrease in the diversity of chemical constituents was observed in the methanolic extract of infested leaves, with the number of identified compounds declining from 114 to 62. This substantial reduction indicates a pronounced reorganization of plant metabolism under biotic stress.

Particularly notable was the decline in the abundance of carbohydrate-related compounds, likely reflecting energy mobilization and the activation of chemical defense responses. Concurrently, infested leaves exhibited the presence of specific metabolites, including quercetin, monopalmitin, neophytadiene, stigmasterol, and arabinofuranose, which are presumed to play a role in induced resistance against *C. ohridella*. The maintenance of stable levels of certain fatty acids suggests their constitutive role in primary metabolism. Additionally, the observed decrease in squalene content may be attributed to its conversion into defensive secondary metabolites. These findings have practical implications for the development of biologically based strategies to manage *C. ohridella* infestations in urban green infrastructure.