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Comparison of volatile compounds released by entomopathogenic fungi

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ABSTRACT

Entomopathogenic fungi are fungal species which are used as a potential source of biopesticides. These fungi produce secondary metabolites which in insects can cause disruption in the normal functioning of their bodies, disease or even death. In order to fully characterize the physiology of entomopathogenic fungi we should identify the volatile organic compounds which are involved in this process. Therefore, we conducted a qualitative and quantitative analysis of volatile compounds produced by entomopathogenic fungi. Seven different species of fungi were analyzed: *Metarhizium anisopliae*, *Metarhizium flavoviride*, *Pandora sp.*, *Isaria fumosorosea*, *Hirsutella danubiensis*, *Batkoa sp.* and *Beauveria bassiana*. The analyses were performed using the HS-SPME/GC-MS technique. In the analyzed fungi, 63 volatile compounds were identified and classified into the following groups: aldehydes, ketones, alcohols, esters, acids, terpenes and others. The results show that entomopathogenic fungi produce a wide profile of secondary metabolites. Principal Components Analysis was used to determine whether separate classes of fungi can be distinguished from one another based on their metabolite profiles.

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