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Content of Secondary Metabolites with Insecticidal and Repellent Activity in the Alcoholic Extract and Essential Oil of *Chaerophyllum Aromaticum* L.

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The most of plant secondary metaboliteshave a safety function to protect plants from pathogens and herbivorous. The important role in the protection of plants from insect pests plays terpenoids and their derivatives.We studied the *Chaerophyllumaromaticum*essential oil composition in order toreveal the substances which have an insecticidal and repellent activity. This knowledge can make us closer to understand the biochemical basis of host choice in phytophagous, such as close related species of aphids that feed and not feed on *Ch.aromaticum.*

An alcoholic extract and essential oil of *Ch.aromaticum* were prepared and analyzed with gas chromatography. The alcoholic extract of *Ch.aromaticum*contained 39 individual substances.Aninsecticidal and repellent activityis known for14 of them. The average content of sabinenduring the growing season was 15.8 per cent(3.06 and 23.68 per cent at the beginning and at the end of season respectfully).Pinene (13.87%), limonene (1%),γ-terpinene (9.32%), germacrene (6.27%), catechol (3.12%), hydroquinone (3.21%) were also presented in the high concentration. Thymol (0.52%), hydrocoumarin (0.71%), β-caryophyllene (0.87%), trans-β-farnesene (4.91%), carotol (3.82%) were rarely detected during the growing season. 3-hexen-1-ol which is the phytophagous predator attractant,was only found at the end of the spring in a concentration near 1.5 percent.

The total concentrationof metabolites with insecticidal and repellent activity in the *Ch. aromaticum*essential oil was 6.49 per cent in May, 24.35 per cent in June, and 37.37 per cent in July.The component composition of theessential oil varied during the period of observation. Except of sabinen, catechol and hydroquinone were only presented at the beginning of May.In June the number of toxic componentsincreases to 10 substances, but in July decreases to 8 ones.

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