SYSTEMIC RELEASE OF VOLATILES BY *BRASSICA OLERACEA* VAR. *ACEPHALA* INDUCED BY *PIERIS BRASSICAE* PREDATION

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Pieris brassicae is a specialist on crucifers and its interactions with some of its host plants have been increasingly studied given their importance in pest management, chemical ecology and entomology. Plants are known to respond to insect attack by releasing volatiles that can either warn neighbour plants to the presence of a predator or attract insect parasitoids, thus reducing the attack efficiency. The influence of *P. brassicae* feeding on *Brassica oleracea* L. var. *acephala* (kale) was investigated, namely, its effect in the volatiles released by the plant through time. Substantial differences, mainly quantitative, were found between the volatiles composition of *B. oleracea* var. *acephala* before the attack and after insect feeding. More than 40 compounds were found, between terpenes (monoterpenes and sesquiterpenes) and lipoxygenase pathway by-products (alcohols and aldehydes), ketones, norisoprenoids, among others. After insect attack, monoterpenes like limonene, eucalyptol, camphor and caryophyllene increased noticeably. These compounds have been regarded as markers in local tissue responses and in this study an increase in their concentration was detected at 1 and 4 hours after feeding, with subsequent reduction after 8 hours. Menthol, menthone, phenol and sabinene were found only in the time following the attack. A considerable increase in hexenyl acetate, a well known semiochemical, was also found, with this compound being the major peak in all experiments, rising with time. These findings provide further knowledge of the ecological interactions between these two species and, given the chemical diversity of these matrices, they may constitute a good source of health promoting compounds.

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