



## Caterpillar-feeding induces large increases in foliar emissions of methanol, LOX volatiles and monoterpenes by *Succisa pratensis*

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A major discovery of the last decade is that plants commonly emit much greater amounts and varieties of volatiles after herbivore damage, and not just from the site of injury. However, the analytical methods for measuring herbivore-induced volatiles usually do not monitor the whole range of volatiles and are complicated by the transient nature of their formation and by their chemical instability. Here we will report the results of using the extremely fast and sensitive proton transfer reaction-mass spectrometry (PTR-MS) technique that allows simultaneous on line monitoring of the leaf volatiles in the pptv range. The resulting on line mass scans reveal that *Euphydryas aurinia* caterpillars-feeding induces emissions of huge amounts of methanol, a biogeochemically active compound and a significant component of the volatile organic carbon in the atmosphere, and other different immediate, late and systemic volatile blends from *Succisa pratensis* leaves. Besides influencing neighbour plants, as well as herbivores and their predators and parasitoids, these large emissions may considerably affect atmospheric chemistry and physics.

**Key words:** biogenic VOCs, herbivory, leaf wounding, LOX volatiles, methanol, monoterpenes

**Acknowledgements** This research was partly supported by grants REN2003-04871 and CGL2004-01402/BOS from the Spanish Government, and ISONET (Marie Curie network contract MC-RTN-CT-2003-504720) from the European Union.