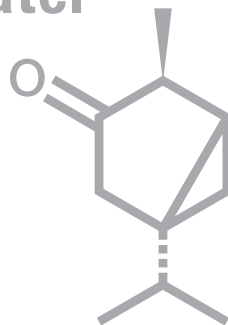
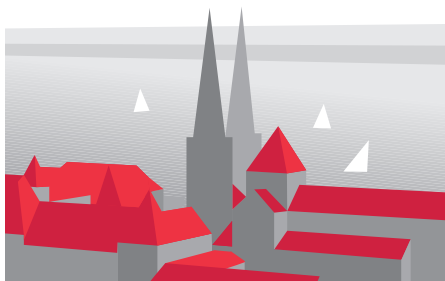
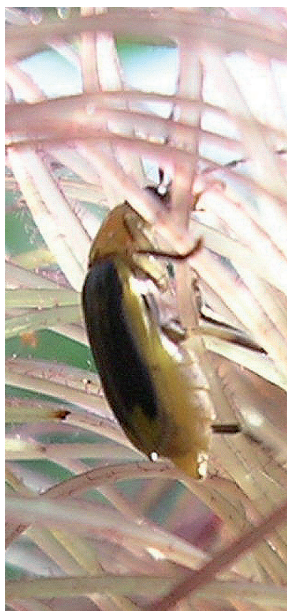


25th Annual Meeting Neuchâtel 2009



International Society of Chemical Ecology



August 23-27, 2009



Feeding *Phyllotreta striolata* F. (Coleoptera: Chrysomelidae) Males Emit an Aggregation Pheromone

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The striped flea beetle, *Phyllotreta striolata*, is a serious pest of economically important crucifer crops in the tropics. This study aimed to identify volatile semiochemicals involved in host plant location in order to develop attractant-based lures for monitoring *P. striolata* in the field. Therefore, the attractiveness of volatile compounds from host plants, *P. striolata* adults, and host plants infested with *P. striolata* was analyzed. Field bioassays were conducted at AVRDC-The World Vegetable Center, Taiwan, in spring 2009. Intact seedlings, feeding-damaged seedlings with beetles removed, seedlings with 20 feeding females, and seedlings with 20 feeding males were tested for attractiveness. Only volatiles from *B. napus* seedlings with feeding *P. striolata* males attracted significantly higher numbers of both, male and female adults. However, host plant volatiles alone and volatiles from host plants with feeding females attracted only few adults. These results indicate that feeding *P. striolata* males produce an aggregation pheromone. Previously, a sesquiterpene was identified as male aggregation pheromone in the congeneric species *P. cruciferae*¹. Volatile collections from feeding males were subjected to coupled gas chromatography-mass spectrometry and coupled gas chromatography-electroantennographic detection. Several compounds elicited antennal responses from male and female *P. striolata*. The structural identification is currently under progress.

Acknowledgements

The authors wish to thank the Gesellschaft für Technische Zusammenarbeit (GTZ) for supporting this work.

References

1. Journal of Chemical Ecology 31:1829-43.