

ABSTRACT FORM

Proposal for poster presentation

Involvement of odorant cues in the process of superparasitism avoidance

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The ability to avoid superparasitism provides a selective advantage to parasitoid females allowing them to avoid depositing eggs in lower quality host. In this context, it has been demonstrated that the parasitic wasps could use either externally and/or internally markers present on their host. However, no information was available on volatile odorant cues potentially involved in this discrimination process.

We observed in a Y-olfactometer that generalist aphid parasitoids, *Aphidius ervi* and *Aphidius rhopalosiphii* (Hymenoptera, Braconidae), were able to discriminate non-parasitized and parasitized *Sitobion avenae* (Hemiptera, Aphididae).

In order to study the chemical cues involved in this host discrimination process, we collected the odors released from crushed aphids using an electronic nose. Healthy aphids and aphids parasitized for 2 and 6 days were compared. *Sitobion avenae* alarm pheromone, (E)- β -farnesene (E β F), was the only chemical identified, and was found in lower quantities in parasitized aphids.

Both parasitoid species provided pronounced electrical depolarizations to E β F in electroantennography (EAG), and both were significantly attracted to the latter compound in the Y-olfactometer.

This suggests that in addition to internally and/or externally markers, volatile compounds such as E β F could also be used by parasitoid females to discriminate healthy and already parasitized hosts, and thus lead to a reduction of superparasitism occurrence.