

Researchers discover sophisticated alarm signaling in a primitive insect

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Many insect species respond to danger by producing chemical alarm signals, or alarm pheromones, to inform others. In a recent study, investigators found that their alarm may be even be context dependent.

The researchers discovered that larvae of the Western Flower Thrips produce an [alarm pheromone](#) whose composition of 2 chemicals, decyl acetate and dodecyl acetate, varies with the level of danger they face. When [pheromone](#) is excreted with a predator present but not attacking, the percentage of dodecyl acetate increases, whereas when a predator does attack, the percentage of dodecyl [acetate](#) is low.

"This type of communication was so far only known from vocal [alarm](#) calling in mammals, and people thought insect pheromones have fixed composition," said Dr. Martijn Egas, co-author of the *Journal of Evolutionary Biology* study.

"When we decided to measure the composition in various contexts, we found variation straight away, and another recent study found that aphids can change the release and amount of their one-compound alarm pheromone. So now we think that this sophisticated chemical signaling is widespread, and this opens a lot of new research questions on the origin and evolution of alarm signaling."

More information: de Bruijn, P. J. A., Egas, M., Sabelis, M. W. and Groot, A. T. (2016), Context-dependent alarm signalling in an insect. *Journal of Evolutionary Biology*, 29: 665-671. [DOI: 10.1111/jeb.12813](https://doi.org/10.1111/jeb.12813)

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