

Caterpillar attacks allow aphids to sneak up on plants

December 6 2017



Aphids of *Brevicoryne brassicae* and the aphid parasitoid *Diaeretiella rapae* on *Brassicainigra* flowers. Credit: Dani Lucas-Barbosa

A *New Phytologist* study indicates that plants prioritize the protection of flowers over leaves and that simultaneous attack by aphids, caterpillars and bacteria leaves plants vulnerable to aphids but more protected from caterpillars.

When [plants](#) come under attack, they often build up defenses by increasing hormonal concentrations and producing defensive compounds that can make them less palatable to attackers. In experiments on [flowering plants](#) with different dual combinations of caterpillar, aphid, and microbe attackers, concentrations of typical plant hormones, such as jasmonates, were higher in flowers than in leaves, showing that plants prioritize their [reproductive organs](#) when under attack. Researchers also found that dual attack by caterpillars and bacteria left plants less able to defend themselves against attack by aphids.

"Our study sheds new light on inducible defences of flowering plants if compared with most of the research that addressed plants in the vegetative stage. We think that our study is also innovative in its approach because we quantified several phytohormones involved in plant defence and reproduction, and use multivariate analyses to examine changes in the phytohormone profile upon exposure of flowering plants to single and dual attack." Said the leading authors of the research Lucille Chrétien and Dr. Dani Lucas-Barbosa, of Wageningen University, in The Netherlands.

More information: [DOI: 10.1111/nph.14904](https://doi.org/10.1111/nph.14904)

Provided by Wiley

Citation: Caterpillar attacks allow aphids to sneak up on plants (2017, December 6) retrieved 20 June 2024 from <https://phys.org/news/2017-12-caterpillar-aphids.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.