

Ant larvae fight the offspring of parasitic queens

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In certain ant species, queens invade the colonies of other species, kill the host queen or queens and lay their eggs in the host nest. After this, the host workers tend to the offspring of the parasitic queen as if their own, just as a bird hatching an egg laid by a cuckoo.

"It's a disaster for the host nest, since without a queen production of its own offspring ceases. This is why defending the host nest from parasites is extremely important," says Unni Pulliainen, a [doctoral student](#) at the Faculty of Biological and Environmental Sciences, University of Helsinki, Finland.

Researchers have recently found that the larvae of the [host species](#) are far from passive bystanders; rather, they may actually be active parties in such situations.

"The larvae of the host ants eat the eggs of the parasitic [queen](#). In other words, they may contribute to defending the nest against parasitic ants that threaten the future of the entire nest."

Six [ant species](#) from the Formica genus were selected for the study, with Formica fusca, a common parasite host in Finland, ending up as the host species. The researchers collected queens of several species from nature, growing their eggs and larvae in laboratory conditions. The experiments focused on finding out which eggs the host larvae had an appetite for, the size of the eggs and the gender of the larvae eating the eggs.

"We also wanted to find out what the eggs smell like, as this specific characteristic is most likely what larvae use to distinguish the origin of the eggs. However, we are still looking for an answer to the biggest question of all: how do larvae smell anything in the first place? Adult ants smell with their antennae, which larvae don't have. This is a good question for further research," Pulliainen states.

More information: Unni Pulliainen et al. The possible role of ant larvae in the defence against social parasites, *Proceedings of the Royal Society B: Biological Sciences* (2019). [DOI: 10.1098/rspb.2018.2867](https://doi.org/10.1098/rspb.2018.2867)

Provided by University of Helsinki

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