

# Parasites can affect innate behaviors of their hosts

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Researchers have conducted a study to determine at which stage of a cricket's life cycle the introduction of a parasite affects calling behaviors.

The parasite-host relationship is complex. For the parasite to survive, it must manipulate certain innate behaviors of its host, such as the calling behavior in the male cricket. Calling (or chirping) is a part the cricket's natural behavior, which develops over different stages of its life.

However, calling behavior is dangerous because it can attract predators and [parasites](#), thereby creating an unsafe environment for an existing parasite to reach maturity.

Two trials were conducted in which male [crickets](#) were exposed to the horsehair worm parasite. In trial 1, exposure occurred between one and three days after the crickets developed wings. In trial 2, they were exposed between six and eight days before wing development.

The study showed that when crickets were infected with the parasite after they had developed wings, those that were noncallers did not become callers. However, when they were infected prior to wing development, noncallers became callers. Overall, a pattern was observed in which crickets spent less time calling if they were infected. This finding shows that even if infection did not stop calling altogether, it did have a general consequence for cricket behavior.

This is the first study to show that parasite infections can affect the

calling behavior of insect hosts. However, it is yet to be determined which behaviors are actual side effects of infection. The full impact of variables such as wing development, female cricket interaction, and [proper nutrition](#) will likely be determined by future studies.

**More information:** "Calling behavior of male *Acheta domesticus* crickets infected with *Paragordius varius* (Nematomorpha: Gordiida)," *Journal of Parasitology*, Vol. 101, No. 4, 2015, [www.journalofparasitology.org/...ull/10.1645/15-765.1](http://www.journalofparasitology.org/...ull/10.1645/15-765.1)

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