

Honeybee disappearance mystery may be solved

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Jessica Hamzelou, reporter

Has the curious case of the disappearing honeybees finally been solved? A twin attack of virus and fungus may have dealt the insects a deadly double-whammy.

[Colony collapse disorder](#) - the mysterious phenomenon that has led to thousands of beehives being abandoned by their occupants - has puzzled beekeepers and researchers for years. The disappearance of the bees has made it difficult to figure out the cause of CCD, though there has been no shortage of contenders including a [paralysing virus](#), a [parasite](#), and even [radiation from mobile phones](#).

Now Jerry Bromenshenk at the [University of Montana](#) and his colleagues have a new theory: virus + fungus = lethal beehive conditions.

The group managed to find some remains of dead bees from 31 bee colonies affected by CCD between 2006 and 2007 from across the United States. They compared microbes in the samples to those from bees in a failing hive in 2008, a hive that collapsed in 2009, bees delivered from to the US from Australia and healthy bees unaffected by CCD.

Protein analysis of the samples threw up two suspects that only turned up in hives struck by CCD - invertebrate iridescent virus (IIV) and *Nosema* fungal infection ([PLoS ONE, DOI: 10.1371/journal.pone.0013181](#)).

The two-pronged attack needed to trigger full-blown CCD may have thrown previous research attempts off the track, the group say. The presence or absence of IIV in a given honey bee colony may explain why in the US, *Nosema* sometimes seems to contribute to severe colony losses - when the virus is present - but not when the virus is absent, the authors say in the paper.

The report adds further evidence to the idea that there are complex interactions taking place between a number of factors, David Aston of the [British Beekeepers' Association](#) told [The Daily Telegraph](#), though he added that he doesn't think CCD is causing bee colony losses in the UK.

Unfortunately CCD in the US still isn't completely solved. The team don't know which of the two infections strikes first, and which finishes off the bees. "It's chicken and egg in a sense," [Bromenshenk told the New York Times](#). "They're co-factors, that's all we can say at the moment."