

Bee decline

Virus causing decline in bee population



It is suspected that a virus is responsible for killing off North American honeybees. Genetic research has shown that Israeli Acute Paralysis Virus (IAPV) turned up regularly. In hives affected by Colony Collapse Disorder (CCD). Over the last three years, between 50% and 90% of commercial bee colonies in the US have been affected by CCD.

The hives are transported around the country to pollinate important crops, notably to California for almonds. The state produces about 80% of the world's almonds in an industry worth \$2.5bn per year. "We're operating under a limited number of colonies – we had five million in the 1950s, now we have half of that number," reported Dr Jeff Pettis, chief researcher of the US government's Bee Research Laboratory.

In 2004, beekeepers began witnessing and reporting a serious phenomenon, in which entire colonies would desert their hives, leaving behind their brood and stocks of food - a syndrome that was later labeled Colony Collapse Disorder.



Bee decline

Pinpointing the cause

Theories on what was causing it ranged from mobile phone radiation to pesticides, from genetically modified crops to climate change. Disease remained a strong possibility however. Genetics offered scientists the opportunity to analyse what organisms were living with and on the bees. They also found genes from parasites, fungi, and viruses, in both healthy hives and in those which had undergone collapse. However IAPV only appeared in samples from CCD populations. "This virus appears to be strongly associated with CCD," reported a leading researcher, "but whether it's the causative agent or just a very good marker (of the syndrome) is the next question we need to address." If it is a cause, it might not be the only one.

The source of the problem?

Also puzzling is the question of how the virus arrived in the US. One finger of suspicion points to Australia, from where the US began importing honeybees in 2004 - the very year that CCD appeared in US hives. The researchers found IAPV in Australian bees, and they are now planning to go back through historical US samples to see if the imports really were the first carriers. If they were, the US might consider closing its borders to Australian bees.

Worryingly, if IAPV does turn out to be a major factor causing CCD, there may be little that scientists or beekeepers can do about it.

