Concern over parasites affecting honey bees
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"However, it took us by surprise that the fungus would impair the workers' flight duration as early as two days after being infected," he said.

"That a highly contagious parasite is impacting honey bee workers so quickly, is concerning.

"If parasites reduce foraging ranges of honey bee colonies, they ultimately impact the bees' ability to pollinate agricultural crops.

"Bees are important for humans, the environment and agriculture, as they pollinate one sixth of all flowering plants world-wide, and help to produce a third of everything we eat."

Dr Dosselli said it was interesting to see that workers from one colony seemed to cope much better with the parasite than workers of the other two colonies in the experiment. Their flight times were by far the longest, and their immune activity in response to the parasite the strongest of all three colonies investigated.

The researchers are planning to unravel the sophisticated molecular interactions between the parasite N. apis and its host the bee, with the ultimate goal of being able to breed disease tolerant bees.

The research has been published in the online journal Scientific Reports.

More information: Ryan Dosselli et al. Flight behaviour of honey bee (Apis mellifera) workers is altered by initial infections of the fungal parasite Nosema apis, Scientific Reports (2016). DOI: 10.1038/srep36649