



Bumblebees' decline points to mass extinction - study

Populations disappearing in areas where temperatures are getting hotter, scientists say

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Bumblebees are in drastic decline across Europe and North America owing to hotter and more frequent extremes in temperatures, scientists say.

A study suggests the likelihood of a bumblebee population surviving in any given place has declined by 30% in the course of a single human generation. The researchers say the rates of decline appear to be “consistent with a mass extinction”.

Peter Soroye, a PhD student at the University of Ottawa and the study’s lead author, said: “We found that populations were disappearing in areas where the temperatures had gotten hotter. If declines continue at this pace, many of these species could vanish forever within a few decades.”

The team used data collected over a 115-year period on 66 bumblebee species across North America and Europe to develop a model simulating “climate chaos” scenarios. They were able to see how bumblebee populations had changed over the years by comparing where the insects were now to where they used to be.

Dr Tim Newbold, of University College London's Centre for Biodiversity & Environment Research, said: "We were surprised by how much climate change has already caused bumblebee declines. Our findings suggest that much larger declines are likely if climate change accelerates in the coming years, showing that we need substantial efforts to reduce climate change if we are to preserve bumblebee diversity."

Bumblebees play a key role in pollinating crops such as tomatoes, squash and berries. The researchers say their methods could be used to predict extinction risk and identify areas where conservation actions are needed.

Prof Jeremy Kerr, of the University of Ottawa and the study's senior author, said: "This work also holds out hope by implying ways that we might take the sting out of climate change for these and other organisms by maintaining habitats that offer shelter, like trees, shrubs or slopes, that could let bumblebees get out of the heat.

"Ultimately, we must address climate change itself and every action we take to reduce emissions will help."

The research is published in the journal *Science*.

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