

Parasites fail to halt European bumblebee invasion of the UK

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A species of bee from Europe that has stronger resistance to parasite infections than native bumblebees has spread across the UK, according to new research at Royal Holloway, University of London.

The study, published today (Wednesday 4th June 2014) in the *Journal of Animal Ecology*, shows that tree [bumblebees](#) have rapidly spread despite them carrying high levels of an infection that normally prevents [queen bees](#) from producing colonies. The species arrived in the UK from continental Europe 13 years ago and has successfully spread at an average rate of nearly 4,500 square miles – about half the size of Wales – every year.

Researchers collected tree bumblebee queens from the wild, checked them for parasites and then monitored colony development in a laboratory. Despite the bees having low genetic diversity and high levels of a nematode parasite that usually castrates other species, 25 per cent of the queens were able to produce offspring. Scientists believe the spread of tree bumblebees could have both positive and negative impacts on [native bees](#).

"Since its arrival to the UK, the tree bumblebee has been rapidly spreading despite high levels of this castrating parasite", said researcher Catherine Jones, from the School of Biological Sciences at Royal Holloway. "Bees are essential to our food chain and the populations of our native bumblebees have declined in recent decades. The arrival of tree bumblebees could be hugely beneficial to us by absorbing parasite

pressure from our [native species](#), as well as helping to pollinate wild plants and crops."

Professor Mark Brown, from the School of Biological Sciences at Royal Holloway, added: "While these findings show promising signs for bee populations in the UK, we still don't know whether there could be any negative impacts if the bumblebees compete for food or nesting sites. Further research should focus on how our native bees are affected and the pollination services that this new species provides."

Provided by Royal Holloway, University of London

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