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Ladybird 'risk to 1,000 species'



Harlequin ladybirds (PA)

The insects are the fastest-spreading alien species on record

The Harlequin ladybird is putting over 1,000 species in the UK in peril, scientists have warned.

"The rate of spread is dramatic and unprecedented," said Dr Helen Roy of the Centre for Ecology and Hydrology.

The ladybird has spread to most parts of the UK in just four years, preying on many other insects.

However, research outlined at the Royal Society's Summer Science Exhibition suggests local ladybird parasites are adapting to prey on the interloper.

To help that process along, scientists are suggesting introducing a mite that renders the ladybirds infertile.

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Originally from Asia, the harlequin preys on a wide variety of insects, including the larvae of other ladybirds, and will also eat fruit.

It was introduced in continental Europe to control pest insects.

First "spotted" in Essex in 2004, the invader was quickly classified as a major threat to the UK's 45 native ladybird species.

Since 2005, its spread has been tracked by a survey inviting members of the public to report sightings.

'Top predator'

"What we've seen is that the southeast is the stronghold, but they have also reached Orkney, Northern Ireland, far west Wales and far west Cornwall," said Dr Roy.

The researchers have also worked out how the insect fits into the UK's ecology.

"The Harlequin ladybird is a top predator and we know that it sits within a web of many other insects that it interacts with, and other organisms as well," Dr Roy told BBC News.



Parasitic wasp (SPL)

Parasitic wasps are already reducing Harlequin numbers

"Because there's nothing very much that attacks it, we believe that 1,000 species all have the potential to be impacted."

Dr Remy Ware of Cambridge University is looking into potential measures to stop the frantic spread of the ladybirds.

She said that some natural enemies of UK ladybirds, known as parasitoids, are adapting to prey also on the Harlequin. Parasitoid flies and wasps lay their eggs inside ladybirds, killing them.

"We have evidence from the past two years that these two groups may be adapting

to attack harlequin as a novel host," Dr Ware told BBC News.

Mite work

Another more promising predator for the insects is a sexually transmitted mite that renders female ladybirds infertile. The mite must be passed from one generation to the next by inter-generational mating.

Native ladybird species produce just one generation per year, which does not leave enough time for the mite to propagate.

But the Harlequin has as many as five generations per year, making it an ideal candidate to carry and pass on the mite.

"We're not suggesting that we would introduce a novel enemy into the UK; it's actually already here and in time we expect it would naturally take on in the harlequin," Dr Ware said.

"We've developed methods whereby we can artificially infect Harlequin ladybirds with the mite - it'd be a case of infecting them and releasing into the wild."

However, Dr Ware stresses that the suggestions are still in the formative stages.