

# New report highlights opportunities for conservation of ladybugs globally

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A 7-spot ladybug takes shelter in a garden. Credit: Denise Pallett

A report into the global status of ladybugs ("ladybirds" in the UK) reveals the threats they face and lays out a roadmap for conservation. These vital pest controllers for farmers and gardeners are considered to

be in decline globally due to human activities, and species are poorly understood.

The survey's authors call for greater citizen science efforts to encourage more people to record ladybugs around the world. They also urge [conservation efforts](#) to protect habitats, in particular the sites that ladybugs rely on to survive the adverse conditions of winters.

The research was compiled by an international group of experts, including ecologists at the UK Centre for Ecology & Hydrology, the University of the Azores and Ghent University, as well as all members of the IUCN SSC Ladybird Specialist Group. It identifies gaps in knowledge about how ladybugs are responding to [environmental changes](#) affecting global biodiversity while suggesting actions to protect ladybugs and other insects.

The ladybird family—Coccinellidae—includes more than 6,000 species globally with 47 found in the UK. Many species of ladybird play an important role in protecting plants—including crops—from the ravages of pest insects including aphids. There is considerable concern that insects, including ladybugs, globally may be in decline, but information is lacking to assess the magnitude of the problems caused by threats such as changes in climate, land use and pollution, and invasive non-native species.

Dr. António Onofre Soares, a lead author and a researcher at University of the Azores says that "this paper brings together a [global community](#) to consider the status of ladybugs and how they fit into the bigger insect picture around the world. We hope the result will be that ladybugs become a larger part of the conservation agenda by highlighting areas where there is a need for data and what can be done in terms of tangible actions."

Dr. Danny Haelewaters, a lead author and a researcher at Ghent University says that "ladybugs have many functions within our ecosystems but at present suffer from a lack of global collaborative research. Alongside ecologists, the ladybird conservation community is still awaiting the first Red List assessments to help inform conservation strategies. I hope we can enthuse more researchers to become involved in studying ladybugs and assessing the ecological threats that impact their diversity and abundance."

In recent years people have taken actions to manage their gardens to provide habitats for bees through bee homes and campaigns such as "no mow May" to increase the abundance of flowering plants which provide an important resource for pollinators. These benefit other insects such as ladybugs, but there are simple measures that people can also implement to further increase the value of their gardens for a diverse range of insects. Actions include ensuring there are flowers to provide nectar throughout insects' active period, in spring and summer, and leaving pest species on roses and vegetables as a food source for predatory ladybugs. Leaves left on the ground in autumn provide overwintering habitat.

Professor Helen Roy, an ecologist at the UK Centre for Ecology & Hydrology and one of the paper's authors, says that "over the last few decades we have seen more and more people getting involved with ladybird surveys contributing their sightings of ladybugs through citizen science initiatives around the world. In this exciting new paper we explore ways that everyone can make a difference and contribute to the conservation of ladybugs and other insects."

As well as public involvement, the research highlights how environmental change is impacting ladybugs and focuses on addressing ways to counter the ongoing threats faced by ladybugs.

In the paper, published in *Conservation Biology*, the team has laid out a

roadmap with short-, medium- and long-term actions that are needed for ladybird conservation and recovery. These actions include:

- Recruiting citizen scientists for [data collection](#) and observations, [education programs](#) and [conservation](#) efforts
- Enhancing agricultural landscapes by creating insect-friendly habitats
- Education programs to target different audiences
- Introducing machine learning to support long-term monitoring, for example using cameras coupled with deep learning software to monitor insects
- Bringing together national monitoring systems globally

Professor Roy adds that "ladybugs are well-loved, charismatic insects but we know so little about them. This paper brings together a global team and sets out ways that we can safeguard the future of these amazing beetles. It is critical that we consider the multiple drivers of [environmental change](#) together and increase our understanding of the ways in which climate change, land-use change and biological invasions interact with one another. We need to act fast and act together."

**More information:** António O. Soares et al, A roadmap for ladybird conservation and recovery, *Conservation Biology* (2022). [DOI: 10.1111/cobi.13965](#)

Provided by UK Centre for Ecology & Hydrology

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