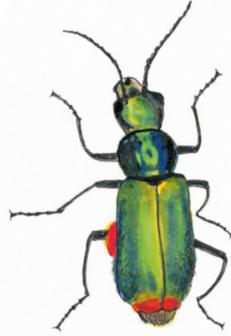
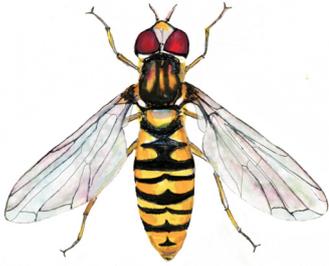


# Where have all the insects gone?

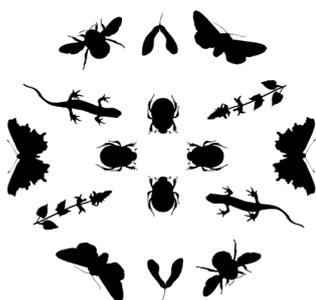


Big news in the world of insects this month is that more than three quarters of them are missing. A study by a group of entomologists in Germany, published in October, shows that the mass of flying insects collected on nature reserves across Germany has fallen dramatically, by over 75% since they began monitoring numbers in 1989. First reported in the journal [Science](#), this story has now been reported in mainstream media because scientists are pointing out that it has serious implications for all life on Earth. Insects are near the bottom of the food chain so these losses impact many other species, including those that help control pests such as birds.

Dave Goulson an ecologist from the University of Sussex involved in publishing the data, said: "If you're an insect-eating bird living in that area, four-fifths of your food is gone in the last quarter-century, which is staggering,"

The risk to human support systems is being taken very seriously and the specimens and data involved are being studied to find out more about the root causes. There have been heavy losses of wild bees and hover flies, important pollinators of food crops, but there are wider implications as insect life also contributes to the creation of healthy soil and clean water and insects pollinate the majority of flowering plants on earth, including trees and shrubs.

More studies are required to determine how widespread this trend is elsewhere. Suspected causes are loss of natural areas to industrialised agriculture and neonicotinoid pesticides, used in agriculture and horticulture, that are already implicated in the crash in wild bee populations. Ironically the insects that seem least affected by neonics are aphids, the target insects, which build up immunity. A study by Goulson's team in 2015 found that these pesticides travel through soil and remain active for many years. Wild flowers growing next to previously treated fields had higher concentrations of neonics than crops. Goulson's team have also found that the majority of garden plants and bulbs sold contain neonics. This year they published [data showing that 70% of plants](#) bought from four plant retailers contained harmful levels of neonics: "We deliberately bought plants that are known to be attractive to bees and butterflies; most of them had a bee-friendly logo, often the RHS one"



Shutford Nature Hub

Entomologists are raising awareness of the importance of pesticide free gardens as safe habitats for insects and other species. We're creating an illustrated food web of the species that have been recorded around Shutford, including plants and insects such as the ones illustrated above, all found in Shutford gardens. It shows the ecological relationships between species and how our gardens support them. We'll publish it over the next few months.

*Illustrations, from the left: Marmalade Hoverfly, Red-tipped Flower Beetle, Six-spot Burnet Moth, Four-banded Longhorn Beetle.*