

UK summers see moth population boom

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The Silver Y moth. Photo: Wikimedia/Olaf Leillinger

(Phys.org)—Moths that spend their summers in the UK experience a population explosion with numbers increasing fourfold, a new study suggests, findings that are changing how we view insect migration.

Previously it was thought that the 10-240 million moths that migrate to the UK in the spring every year from southern Europe and Africa see their numbers dwindle and few of their offspring prosper to make the return journey southward when the British autumn arrives.

However, new [research](#) published in [Proceedings of the National Academy of Sciences](#) by a team of scientists from Oxford University, Rothamsted Research, Exeter University, University of Greenwich, University of York, Lund University and the Met Office, is challenging

the idea of a 'Pied Piper' effect in which insects are 'lured northwards to their doom'. Instead data from radar and ground-based light-traps show that for the UK's most common moth 'Silver Y' (*Autographa gamma*), Britain provides a fertile 'breeding zone' with numbers increasing fourfold ready for a mass migration back to warmer southern climes.

Dr Jason Chapman of Rothamsted Research, lead author of the paper, said: "billions of insects immigrate annually to, or within, the temperate zone, providing major ecosystem services as well as, in some cases, causing serious crop damage and spreading diseases of humans and their livestock."

Professor Jeremy Thomas of Oxford University's Department of Zoology, an author of the paper, said: "This ground-breaking research, based on analysing long-term datasets, will revolutionise our understanding of how some of our most abundant moths and butterflies survive by migrating in their billions each year between central-northern Europe and Africa."

Dr Mike Bonsall of Oxford University's Department of Zoology, also an author, said: "It turns out that many of our conventional ideas about insect migration are upside down: instead of the UK being a place where migrating [insect populations](#) come to dwindle, in fact they thrive and multiply before millions retrace the routes taken by their parents to places such as southern Italy and Libya."

More information: [doi: 10.1073/pnas.1207255109](https://doi.org/10.1073/pnas.1207255109)

Provided by Oxford University

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