

Global warming may not be as bad for animal reproduction as thought, study suggests

July 11 2022



Credit: Pixabay/CC0 Public Domain

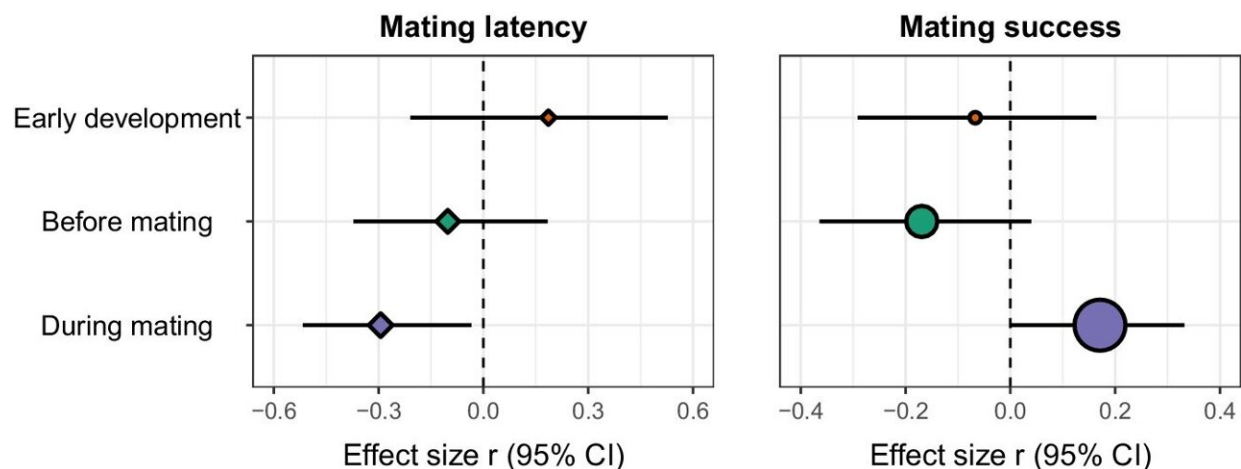
Animals are more likely to mate in warmer environments, a study analyzing the impact of climate change on reproductive behavior has found.

Looking at the impact of temperature changes on 22 species which included a huge variety of animals such as geckos, frogs, butterflies, dragonflies, birds and sea life, research from the University of Aberdeen suggests animals are more likely to mate at higher temperatures, contrary to what was expected.

The aim of the research was to increase the understanding of the potential impacts of [climate change](#) on mating patterns in animals.

Dr. Natalie Pilakouta, lecturer in animal behavior and conservation in the School of Biological Sciences, said: "Our results suggest that climate change may not have as detrimental an effect on animal reproduction as we might assume. Contrary to what we expected, our main finding is that animals are more likely to mate with each other at higher temperatures.

"Previous research has typically focused on [single species](#), making it difficult to generate general predictions for how animal populations will respond to climate change. This study has by contrast, brought together data from a series of published studies allowing us to detect common patterns across species. As a result, this has provided us with a powerful tool for better understanding the effects of rising temperatures on natural populations."



Mean effect size estimates derived from multilevel meta-regression models examining how the ‘time of temperature treatment’ moderator (early development, adulthood before mating trial, or adulthood during mating trial) influences the relationship between temperature and mating latency (diamond) or mating success (circle). The relative size of each symbol represents the number of effect sizes included in that dataset (mating latency: early development = 6, before mating = 11, during mating = 12; mating success: early development = 6, before mating = 14, during mating = 38). Credit: *Journal of Animal Ecology* (2022). DOI: 10.1111/1365-2656.13761

Published in the *Journal of Animal Ecology*, the findings could help scientists to predict the impact climate change will have on animal reproduction. It will also help with understanding how populations may be able to adapt to a warming world.

Dr. Pilakouta added: "In light of global climate change, there is a pressing need to understand how populations will respond to rising temperatures. Understanding the effects of temperature changes on mating behavior is particularly important, given its implications for population viability.

"Our research has looked at 53 studies carried out all over the world including in Asia, North America, Australia and the U.K. and is the first study of its kind. Disruption to [animal populations](#) due to [human activity](#) is a big conservation concern and this study is important in helping us understand these effects.

"Our findings suggest that [animals](#) might be more likely to mate with each other at higher temperatures, but we don't yet know what the effect might be on the number of offspring produced or how well those

offspring survive."

More information: Natalie Pilakouta et al, Effects of temperature on mating behaviour and mating success: A meta-analysis, *Journal of Animal Ecology* (2022). [DOI: 10.1111/1365-2656.13761](https://doi.org/10.1111/1365-2656.13761)

Provided by University of Aberdeen

Citation: Global warming may not be as bad for animal reproduction as thought, study suggests (2022, July 11) retrieved 25 June 2024 from <https://phys.org/news/2022-07-global-bad-animal-reproduction-thought.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.