

Deforestation endangering the majority of the world's species, says new global research

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Hundreds of thousands of species could soon go extinct due to the effects of deforestation, new research examining global data has found.

The scale of the potential loss is massive, as the majority of species in many groups ranging from butterflies to bats reside in tropical forests.

The research, published in *Proceedings of the National Academy of Sciences (PNAS)*, is the first to use local-scale ecological data to predict possible extinctions at a global scale. It employs a large data set that documents 11 key ecological groups.

Predicted losses of species given complete disturbance of these tropical forests are unexpectedly high, and are more than 18 per cent in every animal group except large mammals and mosquitoes, and more than 28 per cent for seven groups in total.

"The overall implication of this research is that any substantial loss of [primary forests](#) will result in numerous extinctions across many groups. There are a lot of reasons to think these results are conservative, so the real effects are likely to be even greater. Even if we preserve forests of some kind in many places, unless we protect them from ever being logged, those forests may end up being empty," said study author Associate Professor John Alroy from the Department of Biological Sciences.

The results also suggest that numerous extinctions of rare species may have already occurred in the tropics.

"A mass [extinction](#) could have happened right under our noses because we just don't know much about the many [rare species](#) that are most vulnerable to extinction. To figure out whether this is true, a lot more field work needs to be done in the tropics. The time to do it is now," said Associate Professor Alroy.

There has been much research on the effects of habitat destruction on species richness in local ecosystems, but local losses can be masked by

the spread of common species able to tolerate human impacts, and surprisingly little is known when it comes to predicting range-wide species extinctions.

"This paper is important because it quantifies the potential number of actual extinctions that might result if we disturb all of the remaining pristine forests in the tropics. Disturbance is no small matter, because roughly two-thirds to three-quarters of all the world's [species](#) are found in tropical forests even though [tropical forests](#) only cover about 10 per cent of the entire Earth's continental area."

More information: John Alroy. Effects of habitat disturbance on tropical forest biodiversity, *Proceedings of the National Academy of Sciences* (2017). [DOI: 10.1073/pnas.1611855114](https://doi.org/10.1073/pnas.1611855114)

Provided by Macquarie University

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