

Thousands of undiscovered plant species face extinction

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Faced with threats such as habitat loss and climate change, thousands of rare flowering plant species worldwide may become extinct before scientists can even discover them, according to a paper published today by a trio of American and British researchers in the journal *Proceedings of the Royal Society B*.

"Scientists have estimated that, overall, there could be between 5 million and 50 million species, but fewer than 2 million of these species have been discovered to date," says lead author Lucas Joppa of Microsoft Research in Cambridge, U.K., who received his doctorate from Duke University earlier this year. "Using novel methods, we were able to refine the estimate of total species for [flowering plants](#), and calculate how many of those remain undiscovered."

Based on data from the online World Checklist of Selected Plant Families at the Royal Botanic Gardens, Kew, the scientists calculated that there are between 10 and 20 percent more undiscovered flowering [plant species](#) than previously estimated. This finding has "enormous conservation implications, as any as-yet-unknown species are likely to be overwhelmingly rare and threatened," Joppa says.

The new, more accurate estimate can be used to infer the proportion of all threatened species, says coauthor David Roberts of the Durrell Institute of Conservation and Ecology at the University of Kent. "If we take the number of species that are currently known to be threatened, and add to that those that are yet to be discovered, we can estimate that

between 27 percent and 33 percent of all flowering plants will be threatened with extinction," he says.

"That percentage reflects the global impact of factors such as [habitat loss](#). It may increase if you factor in other threats such as climate change," Joppa adds.

"The timing couldn't be more perfect," says co-author Stuart Pimm, Doris Duke Professor of Conservation Ecology at Duke's Nicholas School of the Environment. "The year 2010 is the International Year of Biodiversity. We wrote the paper to help answer the obvious questions: How much biodiversity is out there, and how many species will we lose before they are even discovered?"

Provided by Duke University

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