

Singapore's species extinction rate found to be 37% over the past 200 years

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A multi-institutional team of biologists and life and environmental scientists has found that Singapore's rate of plant and animal extinction over the past 200 years is approximately 37%. This finding is [published](#)

in the *Proceedings of the National Academy of Sciences*.

Prior research has shown that before the arrival of humans, the island nation of Singapore was almost fully covered by rainforests—the rest was mostly swamp or [mangrove forests](#). Since that time, much of the island has been deforested. Along with the loss of trees and habitat, there have been major losses in other types of plants and of the animals that once called the island home.

In this new study, the researchers noted that little effort has been done to determine the rate of decline in biodiversity on the island over the years. To that end, they conducted research to learn more about what has transpired over the past two centuries.

The researchers analyzed [historical records](#) that detailed plants and animals on the island as far back as 1796. In all, they found records for more than 50,000 plants or animals, which included 3,000 unique species. As part of their analysis, they also used mathematical models to estimate what they describe as "dark extinctions," extinctions of species unknown to science.

They were able to calculate an extinction rate of 37% for the island overall over the past 200 years. Included in that tally were approximately half of the island's native butterflies, 41% of its [bird species](#) and approximately two-fifths of its bee species. Also, approximately 60% of its [large mammals](#) have disappeared, including tigers and leopards.

Based on the results, the researchers then made estimations for other parts of Southeast Asia. They found that if the rate of deforestation continues at its current pace, approximately 18% of all [species](#) alive in the region today will be extinct by 2100.

Correction note (12/29/2023): The estimated extinction rate of birds in

Singapore is 41%, not 90%.

More information: Ryan A. Chisholm et al, Two centuries of biodiversity discovery and loss in Singapore, *Proceedings of the National Academy of Sciences* (2023). [DOI: 10.1073/pnas.2309034120](https://doi.org/10.1073/pnas.2309034120)

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