

Avoiding extinction: Some Asian animals found thriving near humans

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Sumatra tiger on the forest's edge. Credit: UQ/Matthew Luskin

Some of Asia's largest animals, including tigers and elephants, are defying 12,000 years of extinction trends by thriving alongside humans,

a University of Queensland-led study has revealed.

Researchers scoured paleontological records to compare the historic distribution of Asia's 14 largest species with their populations in present-day [tropical forests](#).

Ph.D. candidate Zachary Amir, from UQ's School of Biological Sciences and the Ecological Cascades Lab, said four species—tigers, Asian elephants, wild boars and clouded leopards—showed increased populations in areas with human infrastructure.

"These results show that, under the right conditions, some large animals can live nearby humans and avoid extinction," Mr. Amir said.

"These results challenge the narrative within some conservation circles that humans and megafauna are incompatible.

"Globally there is a trend towards 'trophic downgrading,' a term referring to the disproportionate loss of the world's largest animals.

"Trophic downgrading is usually worst near humans because hunters target larger species. But in the case of tigers, elephants, wild boars and clouded leopards, their Asian populations are higher nearby humans.

"This may be the outcome of tougher anti-poaching efforts in the [national parks](#) that are closer to human settlements and are more frequently visited by tourists."

The study also found deforestation was still impacting species, and clouded leopard numbers in particular experienced a strong decline in those areas.

But, Mr. Amir said the research showed that if the large animal species

were not hunted, they could live in relatively small habitats and near humans.

"Previously, there have only been a few examples of large Asian species thriving in small habitats near humans, notably in Mumbai, India where leopards in an urban park prey on stray dogs," Mr. Amir said referring to [a prior UQ study](#).



An elephant in Borneo. Credit: UQ/Zachary Amir

"Thankfully, we found that a wider range of animals can coexist with humans."

At one of their study sites in Singapore, where poaching has been eliminated and there are considerable forest restoration efforts, two large animal species are thriving again.

"Singapore has actually experienced the natural re-wilding of sambar deer and [wild boars](#), which are now frequently observed in an urban [forest](#), the Bukit Timah Nature Reserve," Mr. Amir said.

"If we replicate those protection efforts in larger forests and other counties, we may see positive impacts right around the world.

"But before this can happen, humans need to get our act together and limit poaching."

While there are some positive results, UQ's Dr. Matthew Luskin said the study also noted strong declines in tapirs, Sumatran rhinoceros, sun bears, guar and other [large animals](#).

"The key innovation of this work was to systematically investigate the population trends of many different wildlife species across the region," Dr. Luskin said.

"Then we tested if all species showed consistent trends and if similar parks retained similar species. Remarkably, we found no two forests currently possess the same group of wildlife compared to thousands of years ago."

Dr. Luskin said the research, which appears in *Science Advances*, offered an opportunity to shape the future of nature.

"These results provide hope for wildlife in forests previously considered too far degraded or too close to cities," he said. "Now we're exploring new conservation strategies for these surprising places."

More information: Zachary Amir, Megafauna extinctions produce idiosyncratic Anthropocene assemblages, *Science Advances* (2022). DOI: [10.1126/sciadv.abq2307](https://doi.org/10.1126/sciadv.abq2307). www.science.org/doi/10.1126/sciadv.abq2307

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