

Camera trap study captures Sumatran tigers, clouded leopards, other rare beasts

February 24 2020, by Diana Yates



A camera-trap study in a national park in Sumatra captured images of critically endangered wildlife, like this Sumatran tiger (*Panthera tigris sumatrae*). Credit: Max Allen

Scientists deployed motion-sensitive camera traps across a 50-square-

mile swath of Bukit Barisan Selatan National Park in southern Sumatra and, over the course of eight years, recorded the haunts and habits of dozens of species, including the Sumatran tiger and other rare and endangered wildlife. Their observations offer insight into how abundant these species are and show how smaller creatures avoid being eaten by tigers and other carnivores.

They report their findings in the journal *Animal Biodiversity and Conservation*.

"A lot of my research focuses on [natural history](#), where I'm trying to understand behaviors and aspects of ecology that no one has been able to record before," said Max Allen, a wildlife ecologist at the Illinois Natural History Survey who led the research. "And camera [traps](#) are a good way to document a community of terrestrial animals." The INHS is a division of the Prairie Research Institute at the University of Illinois at Urbana-Champaign.

The cameras captured a total of 39 [animal species](#), including critically endangered Sumatran tigers, Sumatran elephants and Sunda pangolins, as well as carnivores including Asian golden cats, marbled cats, Sunda clouded leopards, Malayan sun bears and masked palm civets.

The frequency and time of sightings revealed that the tigers were most active during the day, with the majority of sightings in midday. The [species](#) that compete with tigers as top carnivores appeared to be doing their best to avoid going out during the tigers' peak activity times.



The dhole (*Cuon alpinus*). Credit: Johan Spaedtke

For example, camera sightings of Sumatran clouded leopards—which are not strictly nocturnal—dropped off precipitously in the hours before noon and picked up a bit in late evening, when tigers were rarely seen. Sumatran tigers and Sunda clouded leopards compete for larger prey, and tigers are likely to attack them on sight, Allen said.

The behavior of smaller cats, however, suggests that they do not fear or actively avoid tigers.

"The daytime activity of the marbled cat, for example, actually overlaps highly with that of the tigers," Allen said. It's likely the marbled cats are small enough to be eating prey—like rodents—that are of no consequence to tigers.

The camera traps recorded 28 species not seen in earlier surveys, including the critically endangered Sunda pangolin, and the endangered dhole and otter civet. Surveys from previous studies captured eight species that the camera traps missed, however. These include the critically endangered Sumatran rhinoceros, the endangered dark-handed gibbon and the endangered hairy-nosed otter.



Researchers tracked wildlife over eight years in a 50-square-mile region of Bukit Barisan Selatan National Park, near the coast of southern Sumatra, Indonesia.
Credit: Max Allen

Despite their limitations, camera traps often capture things that people surveying in the wild will miss, Allen said.

"There are a lot of interesting behaviors that we just can't capture through classic field methods that camera trapping allows us to document," he said. For example, in an earlier [camera-trap](#) study of Sunda clouded leopards in Borneo, Allen and his colleagues discovered that the male clouded leopards would scent mark, scratching and urinating to establish their territory and to attract mates—something other researchers had never observed before.

"There are gaps in our knowledge that [camera traps](#) can fill," Allen said. "It would be difficult to document these behaviors and interactions by other means."

More information: M. L. Allen et al, Terrestrial mammal community richness and temporal overlap between tigers and other carnivores in Bukit Barisan Selatan National Park, Sumatra, *Animal Biodiversity and Conservation* (2020). [DOI: 10.32800/abc.2020.43.0097](https://doi.org/10.32800/abc.2020.43.0097)

Provided by University of Illinois at Urbana-Champaign

Citation: Camera trap study captures Sumatran tigers, clouded leopards, other rare beasts (2020, February 24) retrieved 20 June 2024 from <https://phys.org/news/2020-02-camera-captures-sumatran-tigers-clouded.html>

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