

# ***Rhinos' Horns Were Cut to Thwart Poachers. After, They Didn't Go Out Much.***

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New research shows a conservation strategy can disrupt the animals' social networks.



Trimming the horn of a tranquilized female black rhino in South Africa.  
Credit...Kim Ludbrook/EPA, via Shutterstock

Black rhinos are the junkyard dogs of African rhinos. They're not the biggest species on the continent, but they're known for aggressively patrolling and defending their territories and are quick to charge any person, vehicle or other rhino they perceive as an intruder.

One of the keys to that behavior, it turns out, appears to be their horns.

Research [published on Monday](#) shows that black rhinos that have been dehorned in an attempt to thwart poachers engage in significantly fewer interactions with other rhinos and reduce the size of their home ranges.

"It's definitely disrupting their social networks," said Vanessa Duthé, a doctoral candidate in conservation biology at the University of Neuchâtel in Switzerland, and lead author of the findings, which appeared in the Proceedings of the National Academy of Sciences.

"It's sort of like if you put a muzzle on a dog," Ms. Duthé said. "They're not so sure of themselves anymore. They've lost their main defense and their confidence."

Rhinos that have been stripped of their main armament, their horn, seem to feel more vulnerable, Ms. Duthé said. This vulnerability is exhibited through their diminished appetite for exploring and for engaging in conflict with other rhinos.

The research does not address whether black rhinos' "very strong response" to dehorning has an overall positive or negative effect on the species, Ms. Duthé added, such as whether it will result in genetic changes over time by shifting reproductive dynamics, or alter the number of animals that a given landscape can support.

Dehorning has become increasingly common over the past decade in Southern Africa as a means of trying to deter poachers from killing rhinos for their horns, which can be valued more than diamonds or gold on the black market in Southeast Asia.

Dehorning is a painless procedure in which veterinarians first sedate a rhino. They blindfold the animal and insert earplugs, then use a chain saw to cut off the top of its horn, but only the section that does not contain nerves. The base of the horn is then sanded down. The entire process takes no more than 20 minutes. Like fingernails, rhino horns grow back with time and animals are usually dehorned once every 18 months.

Despite the prevalence of this practice, researchers did not know until now what effects, if any, dehorning had on rhino behavior and survival.

More ornery than white rhinos, their larger and more populous cousins, black rhinos are a critically endangered species: Only 5,500 to 6,000 individuals remain, 36 percent of them in South Africa. Ms. Duthé and her colleagues analyzed 15 years of data tracking the movements of 368 of those animals across 10 South African wildlife reserves. Before 2013, none of the black rhinos included in the study had been dehorned, but by 2020, 63 percent had.

The researchers found that dehorning did not increase the chances that a rhino would die from causes other than poaching. However, dehorned animals' home ranges shrank by an average of 45.5 percent, although those figures varied by individuals. For example, one male, Hamba Njalo, lost 27 percent of his territory, leaving him with 9.25 square miles, while another male, Xosha, lost 82 percent of his, leaving him with just under 3 square miles.

Dehorned individuals were also 37 percent less likely to engage in social interactions, especially those between males.

“The study is robust and good science, with long-term data and a large set of observations,” said Sam Ferreira, a large-mammal ecologist at the International Union for Conservation of Nature’s African Rhino Specialist Group, who was not involved in the research. “The results highlight important unintended consequences when seeking to deal with indirect approaches such as dehorning to address societal pressures on rhinos,” including poaching.

Rhino poaching has subsided from its peak in 2015, when [1,349 animals were killed](#) out of a total African white and black rhino population of around 22,100. But the situation today remains “really critical and urgent,” Ms. Duthé said, with more than 548 rhinos poached across Africa last year.

While the rise of dehorning has correlated with a decline in the number of rhinos killed, a mix of economic, social and security factors also affects poaching. “No one has come to the conclusion yet” as to whether dehorning is effective, Ms. Duthé said.

But even with all the unknowns, and with the new results pointing to the impacts on rhino behavior, dehorning still seems to be a valuable conservation tool that “in some instances is needed,” Ms. Duthé said. This is especially the case in reserves that cannot afford to increase other security measures for animals.

Michael 't Sas-Rolfes, a conservation economist at Stellenbosch University in South Africa who was not involved in the research, said that dehorning is not ideal, but is “a somewhat desperate measure.”

“It’s all very well to be in favor of ideal solutions, but we must be pragmatic in the short run to ensure that rhinos survive the ongoing poaching onslaught,” he said. “The fact that dehorning is so widely employed now is indicative of how serious the poaching problem remains.”

***A correction was made on June 13, 2023***

*Because of incorrect information supplied by the photo agency, a picture caption with this article misidentified a group of rhinos in Kenya. The animals pictured were white rhinos, not black rhinos. The photo has been removed.*

***A correction was made on June 14, 2023***

*An earlier version of this article stated incorrectly the amount of territory lost by two rhinos after they were dehorned. Hamba Njalo lost 27 percent of his territory and was left with 9.25 square miles, not just over two square miles. Xosha lost 82 percent and was left with just under 3 square miles, not 8.5 square miles.*