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## Rhino poop draws all the deer (and boars and more) to the yard, study finds

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- *Researchers have discovered that a variety of animals, from spotted deer to rhesus monkeys and peafowl, are attracted to and consume rhino excrement in Nepal's Chitwan and Shuklaphanta national parks.*
- *The study used camera traps to record animal interactions with rhino dung, revealing that some animals eat the dung, the plants growing on it, the insects near it, or use the latrine areas for other activities.*
- *The findings suggest that translocation and reintroduction of even a few rhinos in their historical range can contribute positively to the restoration of the ecosystem.*

KATHMANDU — Amid the tall, rustling elephant grass on the banks of a nearly stagnant Rapti River, half a dozen spotted deer approach mounds of rhino excrement. Unbeknown to them, a camera trap nearby is recording, and it catches them as, with delicate sniffs and tentative nibbles, they begin to eat this most unexpected of snacks.

It's not just spotted deer (*Axis axis*); the cast of animals drawn to these unlikely buffets is diverse. Barking deer (*Muntiacus muntjak*), wild boars (*Sus scrofa*), rhesus monkeys (*Macaca mulatta*) and peafowl (*Pavo cristatus*) were also found roaming around the droppings left by greater one-horned rhinos (*Rhinoceros unicornis*), according to a [recently published study](#) assessing the efficacy of reintroduction of species to habitats from which they've been extirpated.

"We found that while some animals ate bits and pieces of the dung, others consumed herbs, seedlings or mushrooms that had grown on the dung," study lead author Balram Awasthi, from the Chinese Academy of Sciences, told Mongabay. "Similarly, there were others that ate insects found on or near the dung or relieved themselves close to the dung or even sniffed it."



Rhinos, once abundant on the floodplains of the Ganga and the Indus but now restricted to patches in India and Nepal, are known to defecate in the same area time and again over a period of time. Researchers have also observed multiple rhinos choosing to poop in the same spot. This means the animals that eat or interact with the rhino poop know exactly where to find it, Awasthi said. "Also, because multiple rhino poop at the same location, animals seeking it can find fresh dung almost every day," he added.

As part of the study, the researchers set up cameras near known rhino poop areas in two national parks in Nepal's southern plains. They installed 22 cameras in Chitwan National Park in central Nepal, a historical home of rhinos, and eight in Shuklaphanta National Park in the country's west, where four individuals were reintroduced in 2003. The cameras took photos and videos of any animal that visited the poop sites for more than two years during the rainy season.



The researchers analyzed the images and video footage to ascertain the kinds of animals that visited, how often they did so, what they did at the sites, such as eating poop or eating plants growing there. They also measured the size of the sites and tested the nutrients in the poop.

Despite the relatively small size of the rhino population in Shuklaphanta, where only around 17 of them live compared to around 700 in Chitwan, Awasthi and his team observed strikingly similar species making use of the rhino poop. While 15 species were recorded at the poop sites in Chitwan, there were 13 at Shuklaphanta, with spotted deer, considered one of the main prey species of Bengal tigers (*Panthera tigris*), the most common in both the parks. Analysis of the nutrient content in the poop in both the parks found that animals grazed more around poop with higher fiber content.

“Based on the findings of the study we can say that, even with fewer rhinos, the reintroduced population in Shuklaphanta likely restored the ecological function of latrines as important resources for other animals,” Awasthi said. He added that reintroducing rhinos in their historical range could restore important ecological processes, even when the reintroduced population is small.

Rhino dung is particularly nutritious due to the animal's inefficient digestive system, said researcher and conservationist Jhama Karki, who wasn't involved in the study. Rhinos are known to eat up to 50 kilograms (110 pounds) of vegetation every day.

Karki, a former warden of Chitwan National Park and specialist in grassland management, said a large proportion of the plant material that rhinos consume passes through their gut only partially digested. This creates a valuable food source for other animals, rich in nutrients and, in some cases, easier to digest than raw plant matter, he told Mongabay.

Rhino dung also helps spread the seeds of various plants across the landscape; when these take root and grow, they become a food source for other species too. For example, [the proliferation of the "rhino apple tree" \(\*Trewia nudiflora\*\)](#) is believed to be facilitated by rhinos. The poop is also home to dung beetles and other insects that are then eaten by birds and other small animals. Similarly, the rhino's thick, hardened skin hosts dozens of species of parasites loved by birds.



The findings from Shuklaphanta show rhino relocations can be successful, but actually reintroducing the animals back into their historical habitat has been fraught with challenges in Nepal. Between 1986 and 2003, several attempts to establish new rhino populations largely [failed due to a combination of factors](#),

including inadequate planning, political issues, a long-running insurgency, and persistent poaching.

Learning from these challenges, conservation efforts post-2016 have emphasized scientific planning, enhanced habitat security and community engagement. However, political issues and funding constraints continue to pose obstacles to expanding the program.

In addition to the rhinos, conservationists say there's a need to translocate other mega herbivores such as gaur (*Bos gaurus*) and swamp deer (*Rucervus duvaucelii*), as they also serve important ecological functions such as natural management of grasslands, Karki said. This is important as conserving the grasslands is also key to saving the Bengal tigers, he added.