

Hunting Mechanisms of Komodo Dragons

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Komodo dragons, *Varanus komodensis*, may not breathe fire, but how exactly do they capture their prey? The answer to this question has been the subject of some debate and mystery as scientists have worked to understand the world's largest living lizard.

Investigating Komodo dragons' hunting methods is difficult in part because they are found on only a few remote Indonesian islands^{1,2}. Once researchers reach these islands, they have to carry their equipment over uneven terrain shaped by volcanic activity in order to reach the lizards' habitats. Then, large traps must be set up every few miles, and the traps must be checked every day for Komodo dragons. However, the traps often remain empty because Komodo dragons resist the temptation of the fresh meat used as bait. When a Komodo dragon is trapped, it is quickly evaluated and tagged before being released back into the wild¹.

Scientists have also studied Komodo dragons in captivity, but while American zoos have housed Komodo dragons for over a century, the lizards have not always readily adapted to their non-native environment. For many years, Komodo dragons in American zoos did not live more than five years³, much fewer than the thirty years they may live in the wild². It was not until 1992 that captive Komodo dragons were successfully bred in the United States^{1,2}.

As efforts to understand Komodo dragons—in particular, their eating habits—have paid off, researchers have made some surprising, and at times seemingly contradictory, discoveries. There has been some uncertainty as to whether Komodo dragons are predators or scavengers. Evidence now indicates that Komodo dragons both hunt prey and feed on the carcasses of already dead animals. Due to their large size and

the infrequency with which they eat—adult Komodo dragons may eat only once every two months⁴—Komodo dragons take advantages of the meals that are most readily available. Even other Komodo dragons are not off-limits to hungry adults; the young spend their first year in trees to avoid being cannibalized³.

When Komodo dragons do hunt, they have several attack methods that may contribute to their capture of prey. Komodo dragons are stealthy and surprisingly fast, able to sneak up on and ambush weak or wounded deer, water buffalo, and other animals^{2,4}. Originally, researchers believed that prey were killed by a Komodo dragon's powerful bite. Additional evidence now demonstrates that the Komodo dragons' prey often suffers a slow death, for one of two possible reasons⁵. A wild Komodo dragon's mouth teems with septic bacteria that can infect and eventually kill other animals^{2,5}; Komodo dragons also have venomous saliva that prevents blood clotting and causes the prey to go into shock^{2,4}. Once an animal has been bitten, a Komodo dragon will wait patiently until the prey is fully incapacitated. Then it will be joined by other Komodo dragons in the area, which will eat the prey—hooves, fur, and all⁴.

Although Komodo dragons are considered a national treasure in Indonesia³, and their habitat in Komodo National Park has been preserved^{1,3}, they are considered an endangered species, and their population appears to have declined over the past several decades¹. While Komodo dragons have not historically shown aggression towards humans, some recent attacks suggest that the increased human presence in the Komodo dragons' habitat has caused the lizards to feel threatened¹. Researchers advocate ongoing conservation efforts involving collaboration with environmentalists, national authorities, and community members in order to effectively monitor and ensure the continued

protection of Komodo dragons⁵.

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