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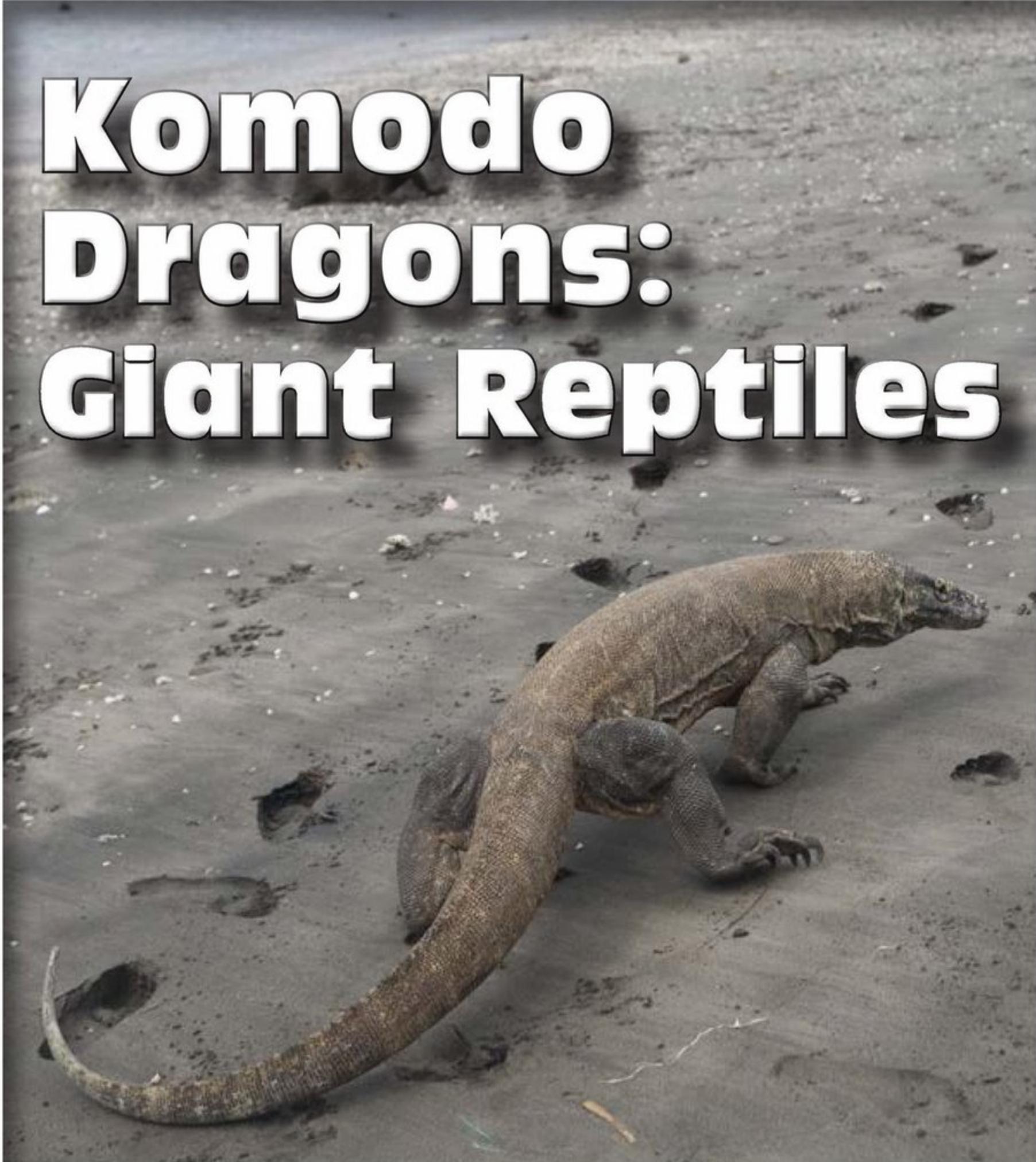
Komodo Dragons: Giant Reptiles



Written by Kira Freed

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Focus Question

How do the unique features of a Komodo dragon help it survive?



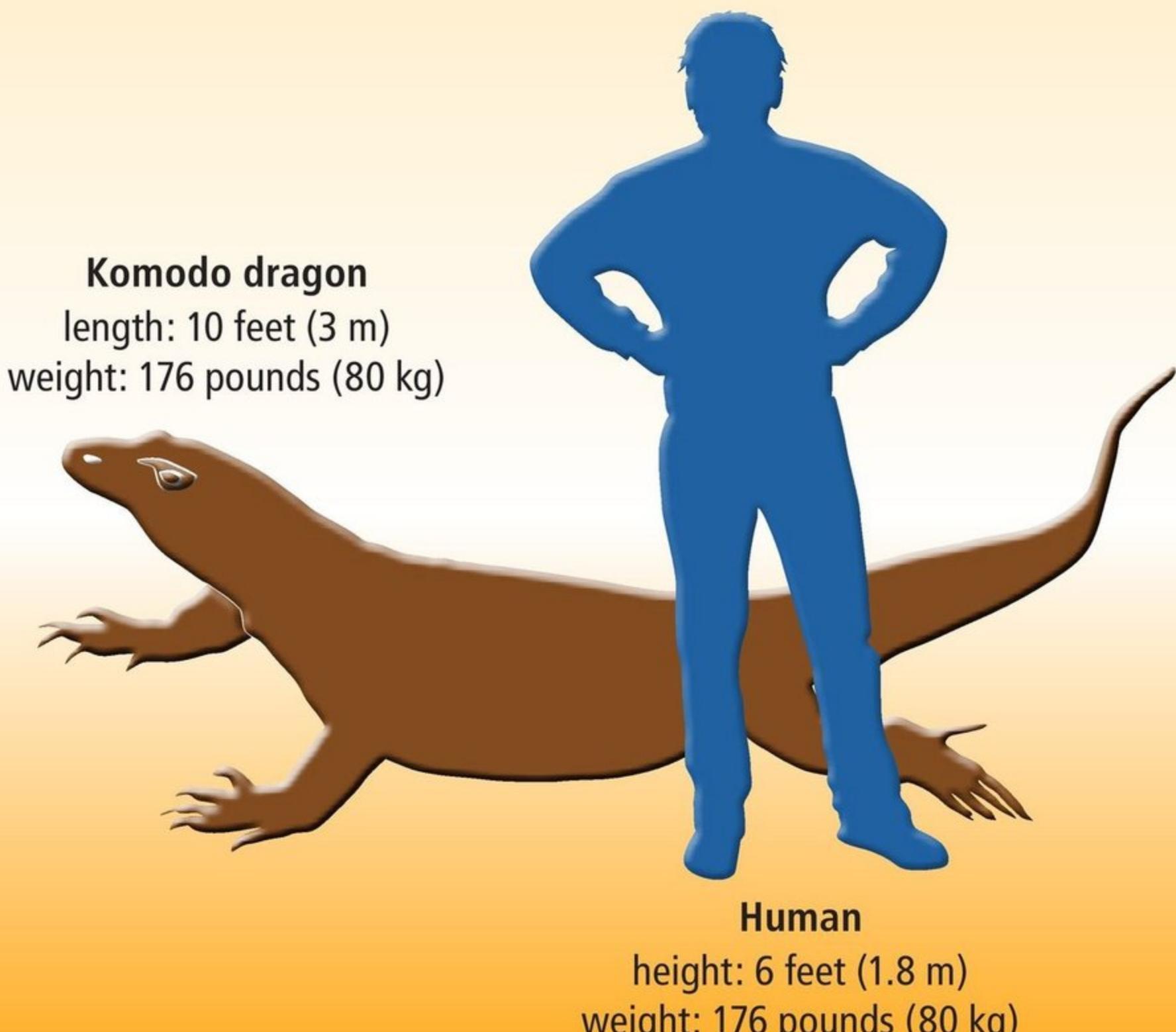
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King-Sized Lizards

Wildlife ecologist Dr. Tim Jessop is an expert on Komodo dragons. He had quite a surprise when he was starting out and saw his first wild Komodo dragon in 2002. “Is it really possible for a lizard to get this large?” he wondered. As he watched a huge male **basking** on a rock, he actually felt as though his eyes were playing tricks on him. Since then, he has observed, studied, and handled Komodo dragons enough to know that these king-sized reptiles are as real as can be.

How Big Is It?





Lean, Mean Fighting Machines

Komodo dragons are built for a fight, and they have the bodies to show for it. These enormous lizards are all muscle and can overpower just about any opponent. When two males fight over a female, they stand upright using their muscular tails for balance as they try to throw each other to the ground. Dragons have bony plates in their skin for protection from opponents' bites and scratches. Their greatest weapons—sharp, serrated teeth and huge claws—are useful for killing prey as well as in battle with other dragons. A fight between two of these creatures is likely to draw blood.

What Makes a Komodo Dragon a Reptile?



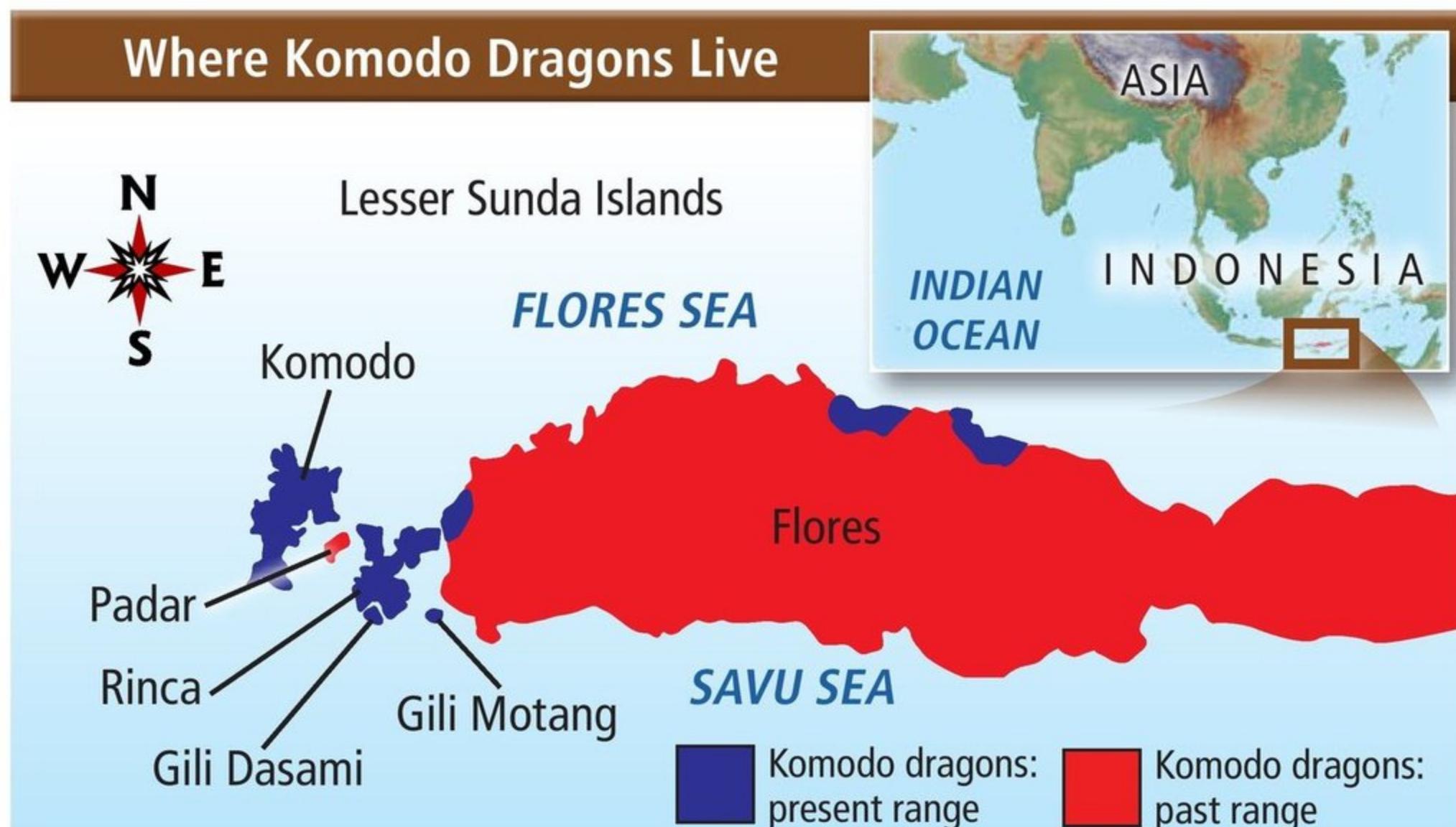
All reptiles

- have a backbone
- have scales or bony plates
- breathe with lungs

Most reptiles

- lay eggs
- are cold-blooded

Where Komodo Dragons Live



Hot Spot

The Asian country of Indonesia is home to all wild Komodo dragons. They live on five of the Lesser Sunda Islands, which are located northwest of Australia and just south of the equator. These small volcanic islands have rugged, hilly terrain with a mix of forests and grasslands. The climate is hot year round, with high humidity from December through February, which is the rainy season. Daytime temperatures average 91°F (33°C) and can reach 110°F (43°C), while temperatures at night average 73°F (23°C). Komodo dragons escape the heat of the day by resting in shallow burrows. The burrows also provide relief from the cool nighttime temperatures. Dragons may dig their own burrow or use one made by another dragon. For the most part, they are **solitary** animals that spend their time hunting, eating, and napping.

Dragons are strong swimmers and can swim from one nearby island to another. However, most dragons stay on their home island. They often walk along beaches, looking for dead fish that have washed ashore.

Komodo dragons used to live in larger areas than they do now. Disappearing food and habitat have caused their range to shrink over time.

The dragons on two of the islands—Gili Motang and Gili Dasami—are much smaller. Over time, these dragons have become smaller as a way of **adapting** to less food and a harsher environment. They weigh an average of 44 pounds (20 kg), while dragons on the other three islands weigh an average of 176 pounds (80 kg).



Komodo dragons keep cool in burrows during the day and sleep in them at night. Burrows are often barely big enough for the dragons.



Komodo dragon prey use game trails—long-established animal paths through the forest—to find food and water.

Deadly Predators

Komodo dragons are carnivores that eat a wide variety of food. They are active predators as well as **scavengers** with a distinct fondness for **carrion**. Their main foods are deer, wild pigs, and water buffalo, all of which have been introduced to the Lesser Sunda Islands by humans. Other prey include rats, snakes, bird eggs, and dead fish. In addition, Komodo dragons are cannibalistic, eating the young of their own kind. Scientists have determined that about one-tenth of an adult Komodo dragon's diet is young dragons.

Komodo dragons may chase down prey, but a more common hunting strategy involves ambushing and then overpowering their prey. Dragons often hide along game trails, waiting (sometimes for hours) for animals to pass by, and then attack.

Like most predators, dragons aren't usually successful in bringing down the animals they hunt. However, they often succeed in biting an animal, which then escapes. The bite usually causes death, either quickly or within a few days. The wound itself may be severe enough to cause the prey animal to bleed to death. In addition, harmful **bacteria** in a dragon's mouth may cause a deadly infection. Wounded prey may also die from an infection caused by standing in bacteria-laden water at watering holes.



Komodo dragons generally share kills, although mealtime is often when fights break out between dragons.

Scientists recently discovered that Komodo dragons have venom—a type of poison delivered with bites. Evidence suggests that dragon venom speeds up blood loss by preventing blood from **clotting** properly and also causes the animal to go into shock. More research is needed to understand the roles of venom and bacteria in causing deaths.

If wounded prey wander off and die, the Komodo dragon uses a convenient tool for locating it in the form of a long, forked tongue. It flicks its tongue to “taste” the air and sample airborne **molecules**. Then it withdraws its tongue into its mouth and touches the two tips to a special organ on the roof of its mouth. This organ can detect odor molecules on the dragon’s tongue from nearby dead animals. Messages are sent to the brain, which determines which tip, left or right, has a higher concentration of molecules. Then the dragon knows in which direction to head out in search of a meal.

Dr. Jessop once watched a Komodo dragon kill and eat a water buffalo. “Over time, many other dragons arrived to join in the feast. Eventually, several days later, just bones, horns, and hoofs remained—proof of these lizards’ amazing appetites.”

Wowser!

- An adult Komodo dragon can eat more than three-quarters of its weight in one meal.
- Very few parts of a dead animal are wasted—an estimated 12 percent as opposed to 25 to 30 percent with lions.
- An extra hinge in a dragon’s jaw allows it to swallow food larger than its head.





Komodo dragon eggs measure about 4 inches (10 cm) long and 2 inches (5 cm) wide. Baby dragons are a little longer than a ruler when they hatch.

Komodo Babies

Female Komodo dragons use different types of nests. They may build a nest in the ground or on a hillside. They have also been known to use a mound made by a ground-dwelling bird called the orange-footed scrub fowl. Depending on their age, female dragons lay between ten and thirty-five eggs at a time. Laying eggs involves a lot of energy and responsibility. During the six to nine months before the eggs hatch, the female must stand guard to protect them from predators.

Females sometimes build **decoy** chambers in their nests to trick predators, including other dragons. Females don't lay eggs every year; they recover their energy during the off years.



Baby dragons are commonly green with black and yellow stripes and spots.

Baby dragons hatch at the end of the rainy season in April, when many insects are available for food. Babies receive no care from their mothers—they're on their own right away. They climb trees to stay safe from adult dragons and other predators, especially

hawks and other birds of prey. Young dragons stay in the trees for two to four years. In addition to insects, they eat geckos, rodents, and birds. When they're older, they also eat leftovers from adult meals while being careful not to become the meal themselves!

Male and female dragons grow at the same rate and are the same size until they reach adulthood at around age seven. Then males grow larger than females and live much longer. They can live to age sixty, but females may only live about half as long. Scientists think the extra energy required to build nests and produce and guard eggs causes females to age much faster.

Lizard Hazards

Only 3,000 to 5,000 Komodo dragons live in the wild. Few of these are breeding females—possibly as few as 350. The **conservation** status of dragons is “vulnerable,” which means at risk of becoming endangered.

Competition with humans and wild dogs for food is a threat to the survival of Komodo dragons. In addition, dragons are losing their habitat to humans, and villagers may kill dragons that attack livestock. Laws protect dragons in Indonesia, and international law prohibits their sale or trade. Still, poachers sometimes kill them.

Scientists in many places are working to keep Komodo dragons from becoming extinct. Indonesia established Komodo National Park in 1980 to protect these rare reptiles. Dr. Jessop, an Australian, along with scientists from Italy and Indonesia, established the Komodo Survival Program in 2007 to study wild dragons and devise ways to manage and conserve them and their natural habitat. Scientists in zoos in Europe, Indonesia, Canada, and the United States work to maintain a **genetically** diverse population of captive dragons.



A Komodo dragon can move at speeds of up to 11 mph (17.7 kmph) for short periods.

Mammoth Lizards

Komodo dragons are remarkable, super-sized reptiles and the largest lizards in the world. If you see one in a zoo or even in a video, you can't help but marvel at the way these giants are perfectly designed for the life they lead. They carry around the tools of their trade at all times, especially their razor-sharp teeth and long, strong claws. Watching a dragon move around, it's not hard to imagine the damage it can do when it's on the prowl for a meal or a mate.

Komodo dragons are an important part of Earth's biodiversity. Dr. Jessop encourages people to do everything they can to help these amazing creatures as well as other wild animals. Supporting conservation groups and seeking ways to find a balance between people's needs and the needs of other living things can help these enormous lizards survive.

Glossary

adapting (<i>v.</i>)	changing to fit a new or specific situation or environment (p. 8)
bacteria (<i>n.</i>)	small one-celled organisms that sometimes cause infections and disease (p. 10)
basking (<i>v.</i>)	resting and taking in warmth from the Sun (p. 4)
carrion (<i>n.</i>)	the decaying meat of a dead animal (p. 9)
clotting (<i>v.</i>)	changing from a liquid to a semisolid or solid state; usually refers to blood (p. 10)
conservation (<i>n.</i>)	the protection of wild lands and the living things found there (p. 14)
decoy (<i>n.</i>)	a person or object used to trick or lure someone or something away from a target (p. 12)
genetically (<i>adv.</i>)	in a manner having to do with heredity and variation in living things (p. 14)
molecules (<i>n.</i>)	the smallest parts of a substance that can exist by themselves, each made of two or more atoms (p. 11)
scavengers (<i>n.</i>)	animals that find and eat animals that are already dead (p. 9)
serrated (<i>adj.</i>)	having a jagged or tooth-shaped edge; saw-toothed (p. 5)
solitary (<i>adj.</i>)	tending to live or spend time alone (p. 7)

Words to Know

adapting
bacteria
basking
carriion
clotting
conservation

decoy
genetically
molecules
scavengers
serrated
solitary

Front and back cover: Komodo dragons wade in the water in Komodo National Park in Indonesia.

Title page: Walking along a beach, a hungry Komodo dragon searches for its next meal.

Page 3: Giant Komodo dragons are strong swimmers and have been known to swim from one island to another in Komodo National Park.

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