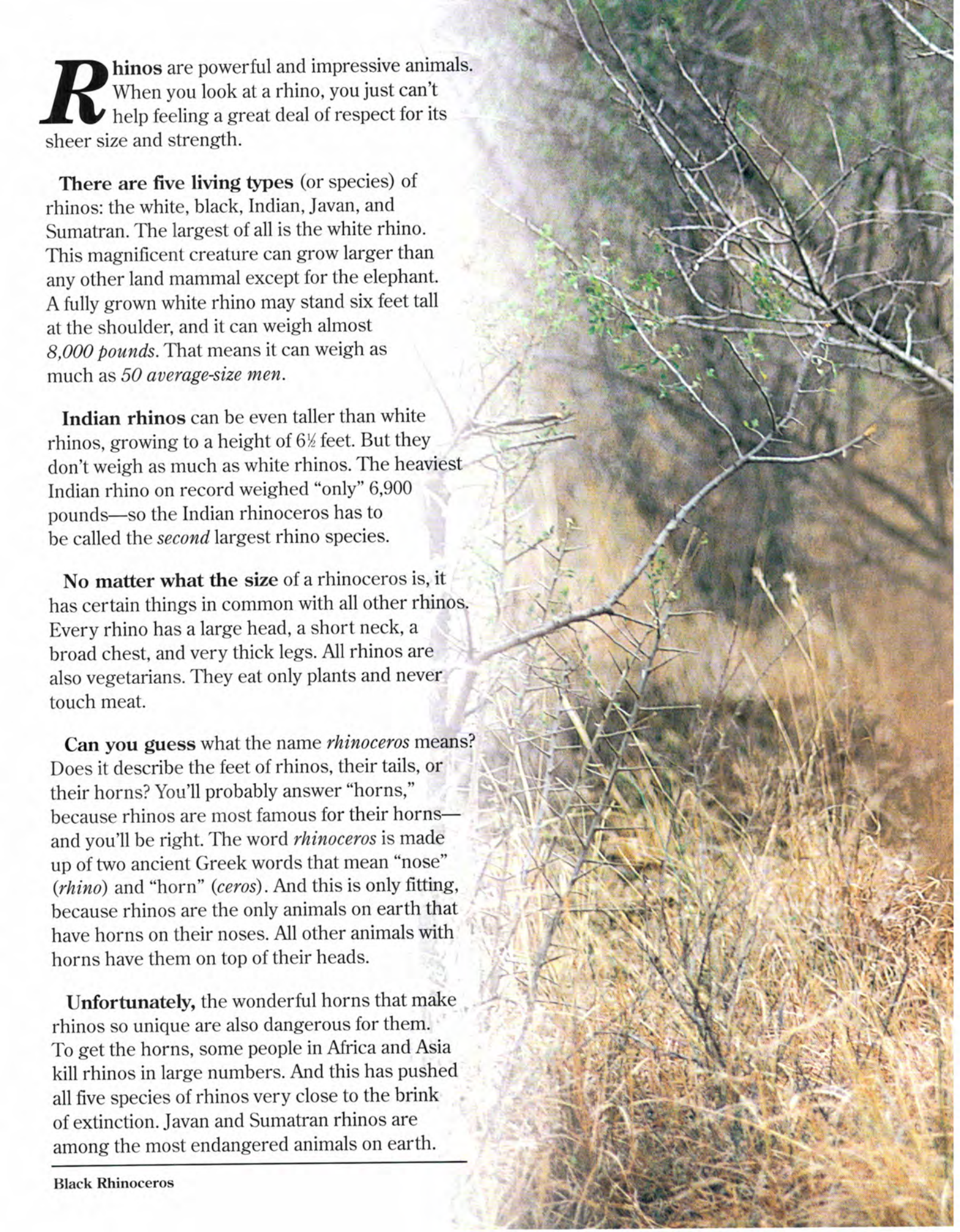


# RHINOS

- The truth about "armor"
- The point of a horn
- A hair-covered rhino
- and so much more!



**R**hinos are powerful and impressive animals. When you look at a rhino, you just can't help feeling a great deal of respect for its sheer size and strength.

**There are five living types** (or species) of rhinos: the white, black, Indian, Javan, and Sumatran. The largest of all is the white rhino. This magnificent creature can grow larger than any other land mammal except for the elephant. A fully grown white rhino may stand six feet tall at the shoulder, and it can weigh almost 8,000 pounds. That means it can weigh as much as 50 average-size men.

**Indian rhinos** can be even taller than white rhinos, growing to a height of 6½ feet. But they don't weigh as much as white rhinos. The heaviest Indian rhino on record weighed "only" 6,900 pounds—so the Indian rhinoceros has to be called the *second* largest rhino species.

**No matter what the size** of a rhinoceros is, it has certain things in common with all other rhinos. Every rhino has a large head, a short neck, a broad chest, and very thick legs. All rhinos are also vegetarians. They eat only plants and never touch meat.

**Can you guess** what the name *rhinoceros* means? Does it describe the feet of rhinos, their tails, or their horns? You'll probably answer "horns," because rhinos are most famous for their horns—and you'll be right. The word *rhinoceros* is made up of two ancient Greek words that mean "nose" (*rhino*) and "horn" (*ceros*). And this is only fitting, because rhinos are the only animals on earth that have horns on their noses. All other animals with horns have them on top of their heads.

**Unfortunately**, the wonderful horns that make rhinos so unique are also dangerous for them. To get the horns, some people in Africa and Asia kill rhinos in large numbers. And this has pushed all five species of rhinos very close to the brink of extinction. Javan and Sumatran rhinos are among the most endangered animals on earth.



**T**he five types of rhinos have much smaller ranges than they had in the past—and the number of rhinos living within the ranges is much smaller. Black rhinos—once found throughout eastern and southern Africa—now live in small, scattered areas. They numbered 60,000 in the 1960s but the population has dropped to fewer than 2,300. (For more information go to [www.zoobooks.com/learnmore](http://www.zoobooks.com/learnmore)). The ranges of Indian, Javan, and Sumatran rhinos are so tiny that it's difficult to find them on the map. Through the efforts of many people in Africa and several zoos, the white rhino from southern Africa is no longer considered endangered, but still requires protection.

It's easy to tell one type of rhino from another. Just look at the shapes of their heads and horns. Notice that three species have two horns, while the others have only one horn. Males and females have the same number of horns, except Javan rhinos. Javan females don't have any horns at all.



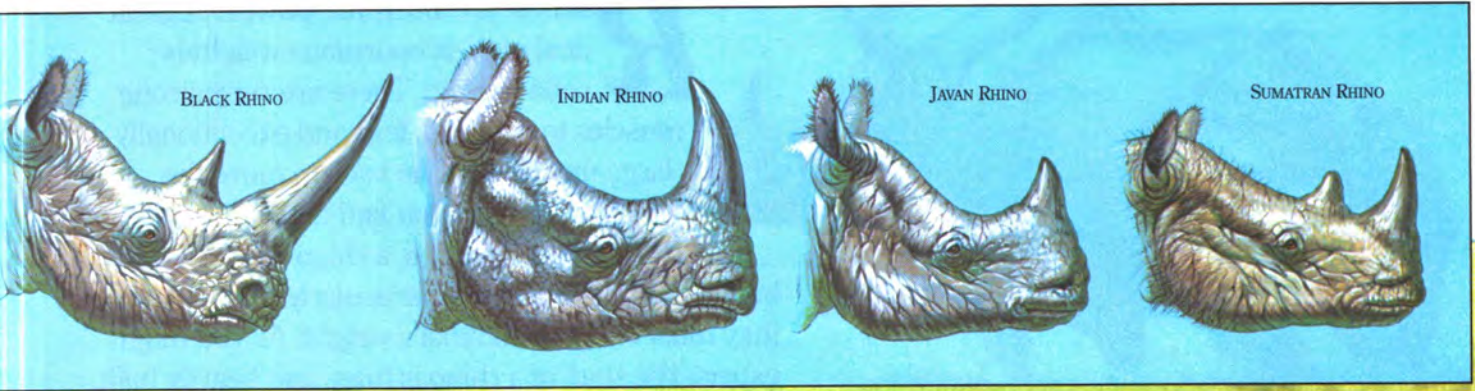
WHITE RHINO



BLACK RHINOCEROS  
*Diceros bicornis*

WHITE RHINOCEROS  
*Ceratotherium simum*





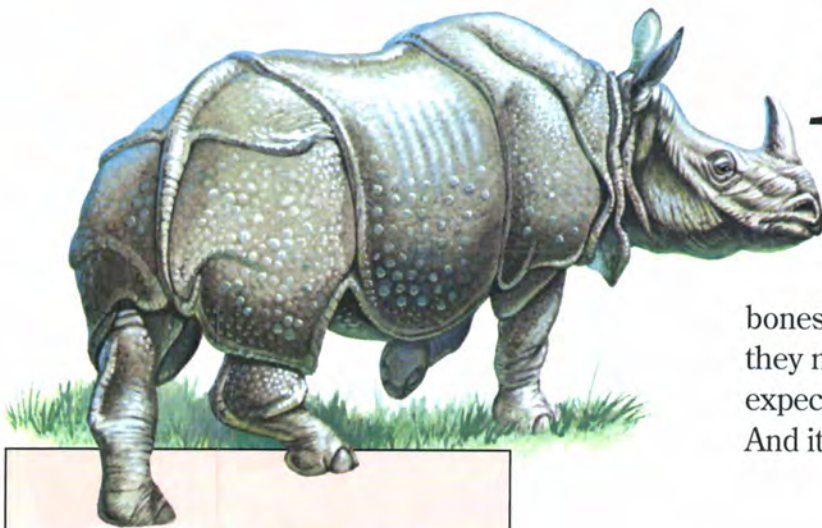
■  
**GREAT INDIAN RHINOCEROS**  
*Rhinoceros unicornis*



■  
**JAVAN RHINOCEROS**  
*Rhinoceros sondaicus*



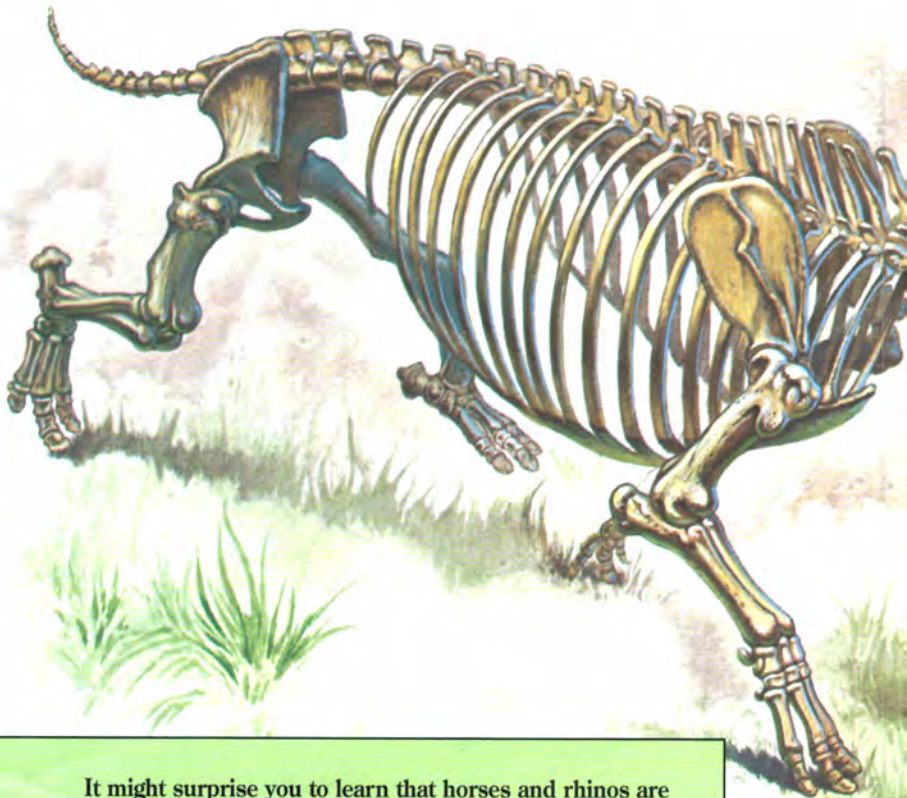
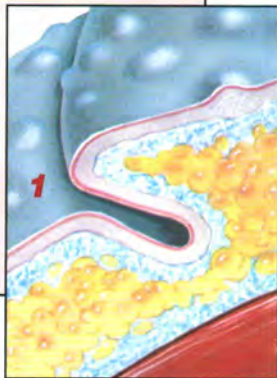
■  
**SUMATRAN RHINOCEROS**  
*Dicerorhinus sumatrensis*



**R**hinos are built for power. A great deal of their enormous weight is solid muscle. There are very strong muscles to drive the legs and exceptionally large muscles on the back to move the large head. (Can you find these muscles?) Beneath the muscles, a rhino has thick bones. The leg bones are particularly thick because they must carry the animal's weight. As you might expect, the skull of a rhino is huge and heavily built. And it has lots of big teeth for crushing its food.

People often think of rhinos as “living tanks” that have armor-plated skin. Indian and Javan rhinos look especially like tanks. Their skin seems to be divided into plates, and the bumps on the skin look like rivets.

The skin of rhinos is very thick, but not nearly as strong as armor plate. It can be scratched rather easily—and most rhinos have scars on their hides to prove it. The “joints” in the surface are really just folds in the skin **1**.



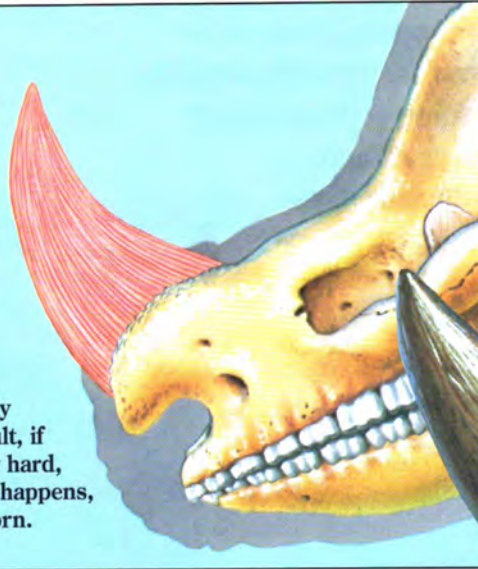
It might surprise you to learn that horses and rhinos are very closely related to each other. Like horses, rhinos walk and run on their toes—and they can run very fast. Even the biggest rhinos may reach a speed of 35 miles per hour. This is as fast as most horses can run, although a horse can keep running at this speed much longer than a rhino can.

Inside their hooves, rhinos have three toes. A soft pad under the toes **2** cushions the foot and helps to carry the tremendous weight of the animal.



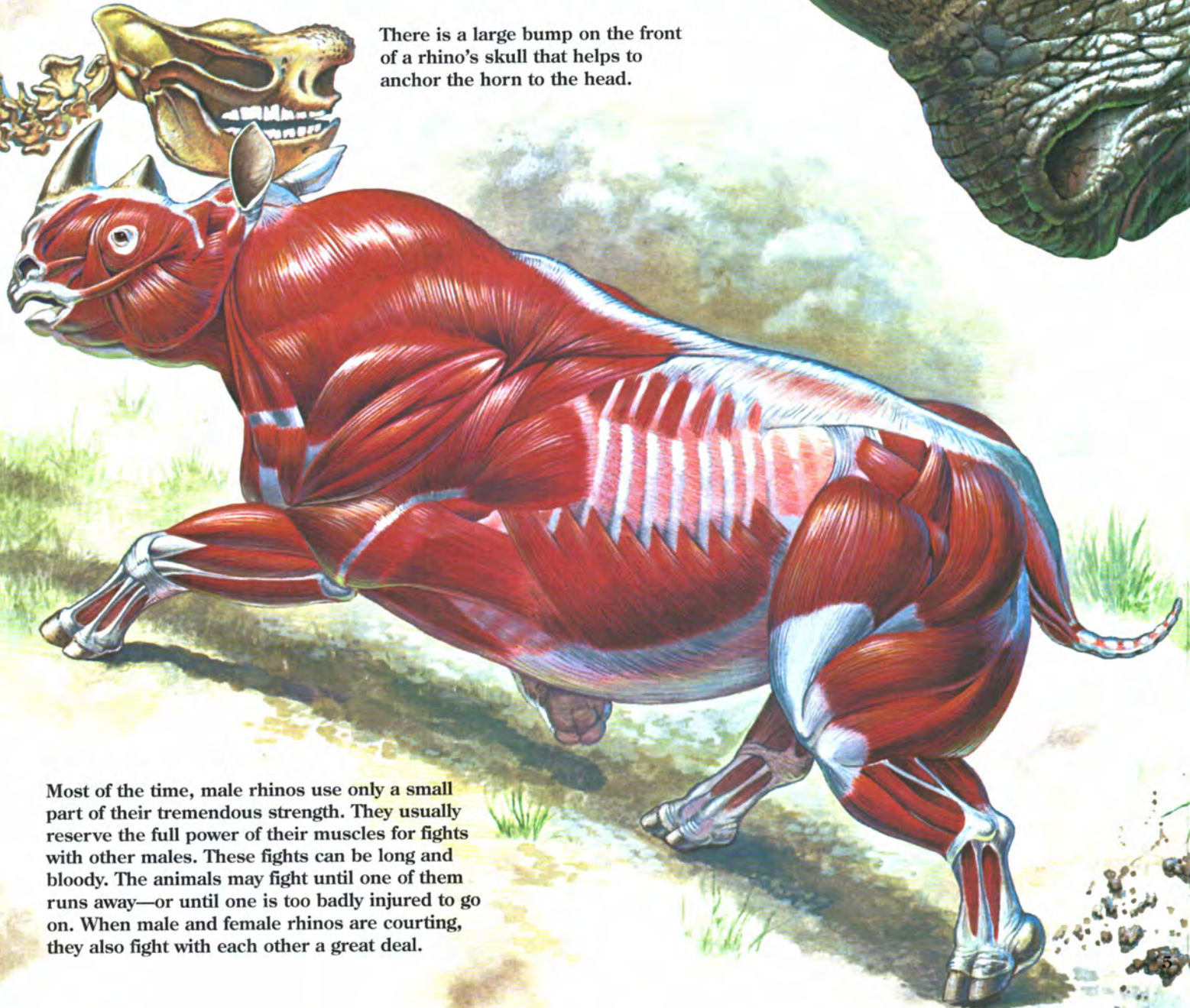
Rhino horns are different from the horns of all other animals. Other horns have a hard layer of keratin on the outside (the same material that your fingernails are made of), with a softer, spongy core inside. Rhino horns are hard all the way through. They are made of *thousands of tiny strands* of keratin, packed tightly together.

A rhino's horn is rather loosely attached to its head. As a result, if the horn hits something really hard, it may get knocked off. If this happens, the rhino can grow another horn.



The horns of rhinos have two main uses. Rhinos use them to plow up the ground when they are looking for mineral salts to eat. And, of course, they are used as weapons when rhinos fight.

There is a large bump on the front of a rhino's skull that helps to anchor the horn to the head.

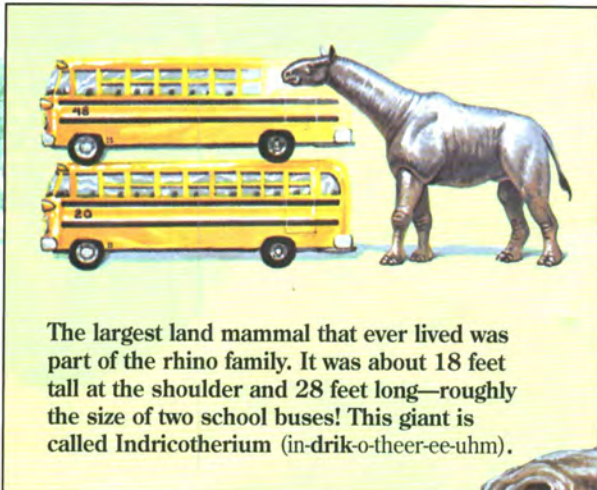


Most of the time, male rhinos use only a small part of their tremendous strength. They usually reserve the full power of their muscles for fights with other males. These fights can be long and bloody. The animals may fight until one of them runs away—or until one is too badly injured to go on. When male and female rhinos are courting, they also fight with each other a great deal.

**I**n the past, there were many more kinds of rhinos than there are today. Instead of just five species, there were hundreds of species. As you can see, some of the ancient rhinos looked like today's rhinos, and some of them did not.

The first rhinos lived about 60 million years ago. They were very small and looked like the ancestors of horses. They did not have horns, and many rhinos that came after them did not have horns either. Some ancient rhinos had much longer legs than today's rhinos, and some had much shorter legs. Can you find some other differences between ancient and modern rhinos?

GIANT GIRAFFE-RHINOCEROS  
*Indricotherium*



The largest land mammal that ever lived was part of the rhino family. It was about 18 feet tall at the shoulder and 28 feet long—roughly the size of two school buses! This giant is called *Indricotherium* (in-drik-o-theer-ee-uhm).

MARSH RHINOCEROS  
*Metamynodon*



WOOLLY RHINOCEROS  
*Coelodonta*



SHORT-LEGGED RHINOCEROS  
*Teleoceras*







The first rhinos lived in North America. Over the course of time, some types of ancient rhinos migrated to Asia. All living rhinos are descended from these animals. The last rhinos in North America became extinct about five million years ago.

At one time or another, ancient rhinos lived on many of the world's continents (see the green areas on the map). As far as we know, there have never been rhinos in South America, Australia, or Antarctica.

**BIG HORN RHINOCEROS**  
*Elasmotherium*

**SLENDER RHINOCEROS**  
*Juxia*

**ETRUSCAN RHINOCEROS**  
*Dicerorhinus*

**RUNNING RHINOCEROS**  
*Hyracodon*

**TWIN-HORNED RHINOCEROS**  
*Diceratherium*

**LONG-NOSED RHINOCEROS**  
*Meninatherium*

**PRIMITIVE RHINOCEROS**  
*Hyrachyus*

These white rhinos represent a conservation success story. In the 1800s, the white rhino covered the southern half of Africa. By the early 1950s there were less than 500.

Operation Rhino, a program to capture and relocate rhinos, grew from the efforts and dedication of three men—Colonel Jack Vincent of the Natal Parks Board, Nick Steele, with his team of game rangers on horseback, and Ian Player, whose life revolved around saving rhinos as chief conservator of Zululand. The team worked tirelessly through the 1960s and 1970s to dart, crate, and relocate as many as 100 rhinos a year to safe areas, where they could be closely guarded from poachers and have room to roam and reproduce without overcrowding. Today, because of their efforts, there are about 17,500 white rhinos.







Black rhinos are *browsers*. They prefer to eat bushes and trees instead of grass. To do this, a black rhino has a *prehensile* (pree-hen-sil) lip that works like a large finger. This has also given them the name *hook-lipped rhino*. The lip grabs twigs and shoves them into the mouth so the teeth can bite them off. When their favorite foods are hard to find, black rhinos may eat grass. The “finger” or “hook” is used to rip up clumps of grass.



**B**lack rhinos live on the plains of Africa, where they do the same kinds of things that all rhinos do. They spend the hottest hours of every day sleeping. Most of the remaining time they spend eating huge quantities of food.

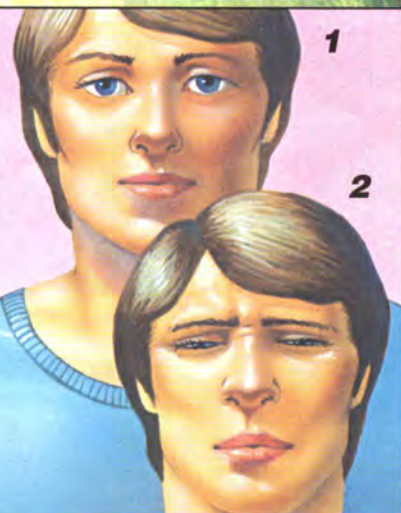
These animals are famous for their bad tempers. Black rhinos don't seem to like anything or anybody—including other black rhinos. Sometimes, two or three of them may live together. But most of the time each black rhino lives by itself and seems to prefer it that way.

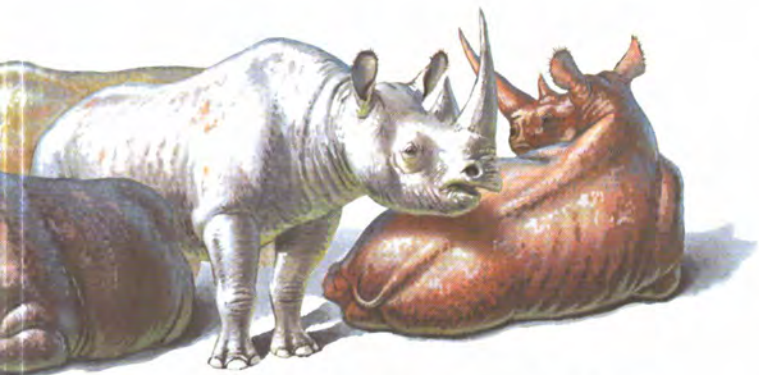
Black rhinos are also famous for their terrible eyesight. They may be the most nearsighted animals in Africa. At a distance of only 15 feet, they don't seem able to tell a man from a tree.



Some scientists believe that rhinos have such poor eyesight because their ancestors lived in dense forests. In such places, the thick cover of plants prevents animals from seeing very far in any direction—so good eyesight isn't really necessary.

**SEE FOR YOURSELF**  
how a black rhino sees the world. First, look at something across the room with your eyes open **1**. Now squint your eyes until they are almost closed **2**. How would you like to walk around in the wilds of Africa with eyesight like this?





Rhino mothers are among the best in the animal world. They may keep their young with them for years. During that time, they teach their offspring everything they will need to know to survive on their own. Usually, the young don't leave their mothers until the mothers give birth to new babies. By that time, the young rhinos may be almost as big as their mothers.



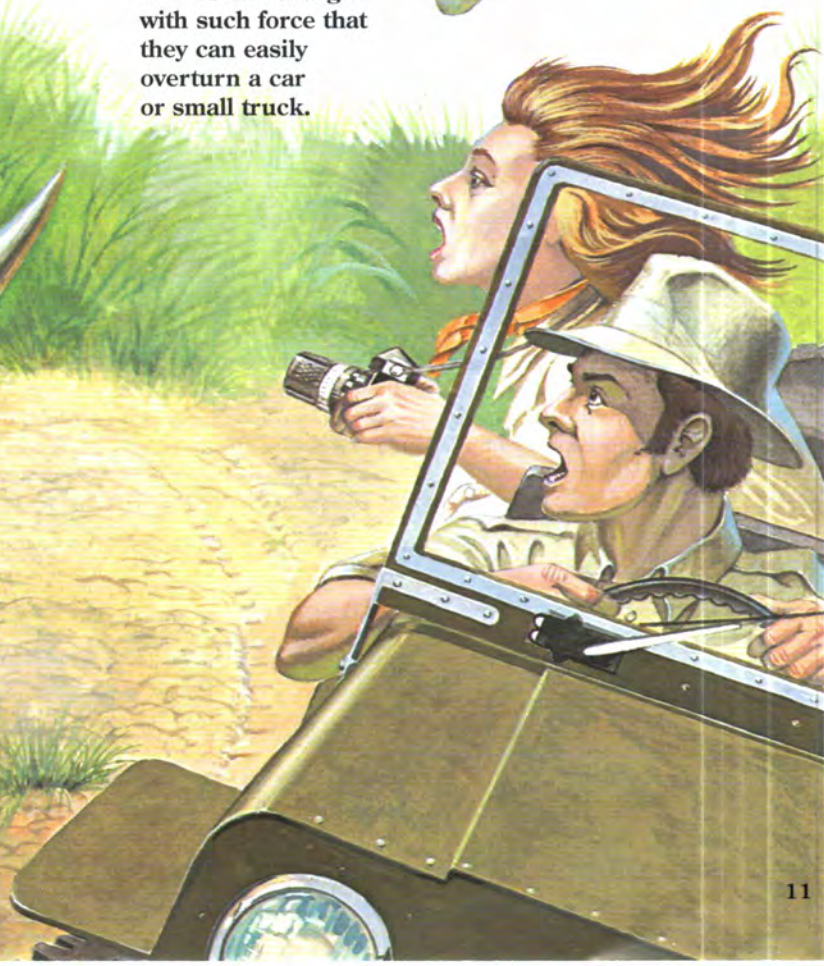
The common names of African rhinos are not really accurate. Black rhinos are not black, and white rhinos are not white. The skin on both species is actually a *dull gray*. However, because rhinos like to take mud baths and dust baths, they often take on the color of the ground where they live. For this reason, they may look red, or brown, or purple—or a lot of other colors.



Hold onto your hat when a rhino starts chasing after you! Rhinos can charge with such force that they can easily overturn a car or small truck.

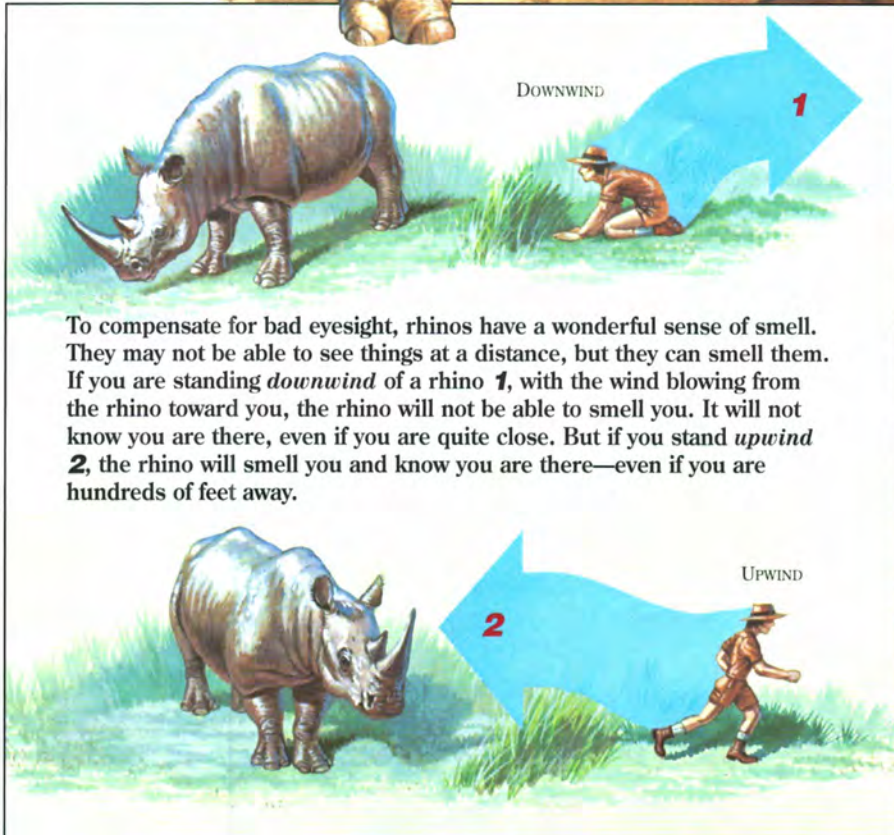


The bad temper of a rhino may be connected to its bad eyesight. Until a rhino is almost on top of something, it can't really tell if that something is friendly or not. Rhinos may charge everything just to be on the safe side. Many times, rhinos have been seen charging at trees and large rocks, trying to scare them away!



**W**hite rhinos are much more sociable animals than black rhinos. They sometimes gather together in small herds and seem to get along with each other in a more friendly way than black rhinos ever would. They do sometimes lose their tempers, but most of the time they seem to have rather calm, unexcitable personalities. If given half a chance, a white rhino would rather run away from trouble and can even seem rather shy.

When it comes to food, white rhinos prefer grass to anything else. They are *grazers* and like to spend hours quietly chomping grass.



To compensate for bad eyesight, rhinos have a wonderful sense of smell. They may not be able to see things at a distance, but they can smell them. If you are standing *downwind* of a rhino **1**, with the wind blowing from the rhino toward you, the rhino will not be able to smell you. It will not know you are there, even if you are quite close. But if you stand *upwind* **2**, the rhino will smell you and know you are there—even if you are hundreds of feet away.

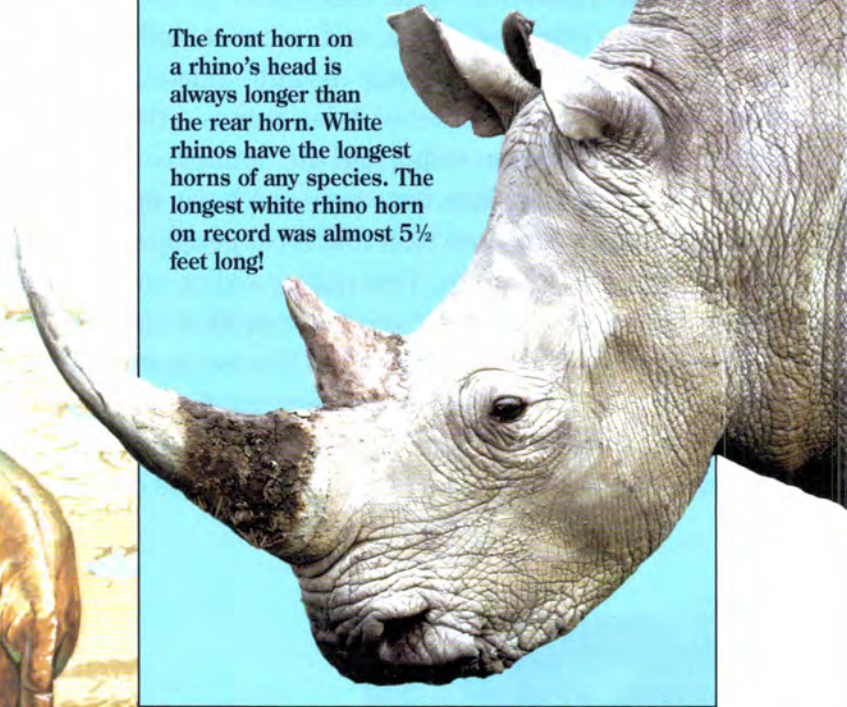


One of the greatest pleasures of rhino life is wallowing in the mud. Rhinos love to roll around in the sloppiest and gooiest mud they can find—covering themselves from head to toe. When it's hot, this is a great way to cool off.

It also keeps the skin in good condition. A thick layer of mud keeps insects from biting.



The front horn on a rhino's head is always longer than the rear horn. White rhinos have the longest horns of any species. The longest white rhino horn on record was almost 5½ feet long!



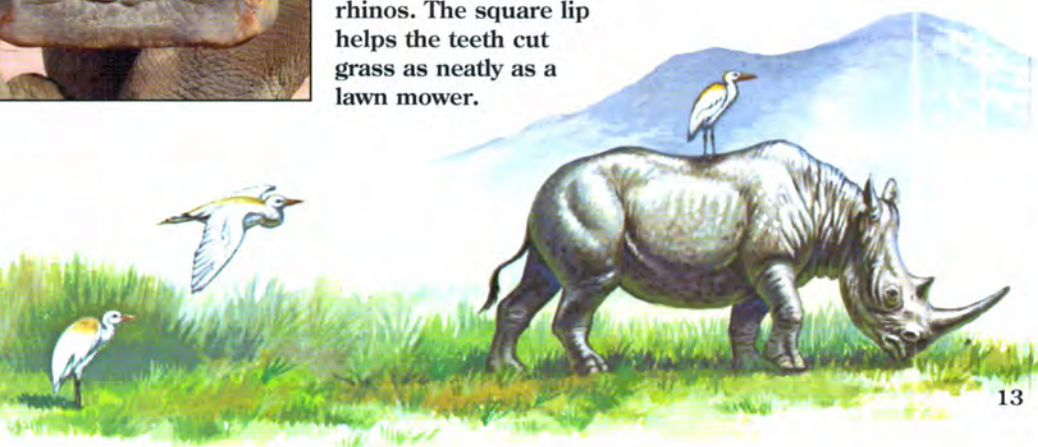
White rhinos have much longer heads than other rhinos, and the heads are much heavier. They may weigh over 2,000 pounds all by themselves! It takes a lot of muscle to hold up such a head, and this is why white rhinos are the only ones with humps on their backs. The hump contains a huge mass of muscles.



The upper lip of a White rhino is straight and wide. In the language of the Dutch settlers of South Africa, "wide" sounds like "white." Some people think this is why it's called the white rhino. White rhinos are also called *square-lipped* rhinos. The square lip helps the teeth cut grass as neatly as a lawn mower.



Like many large African animals, rhinos are often followed by certain types of birds. Cattle egrets like to walk after rhinos and eat the insects that the rhinos stir up when they graze.



**A**sian rhinos are quite different from the black and white rhinos of Africa, and scientists believe that the two groups are only distantly related to each other. There are three types of Asian rhinos—the Great Indian rhino, the Javan rhino, and the Sumatran rhino.

Indian and Javan rhinos have only one horn, and they have the bumpy armored skin that most people think of when they think of rhinos. This makes Indian and Javan rhinos look quite different from the smoother-skinned African rhinos. The Sumatran rhino has two horns like African rhinos, but the horns are very small.

All of the Asian rhinos are browsers. But they live in different kinds of places and eat different kinds of plants.



GREAT INDIAN RHINO

Of the Asian rhinos, the Indian is the largest, the Javan is second in size, and the Sumatran is smallest. The Javan looks like a smaller version of the Indian, but the Sumatran doesn't look like any other rhino. For one thing, it is the only rhino that has hair on its body. Scientists think that the Sumatran may be the most primitive of all living rhinos.



JAVAN RHINO

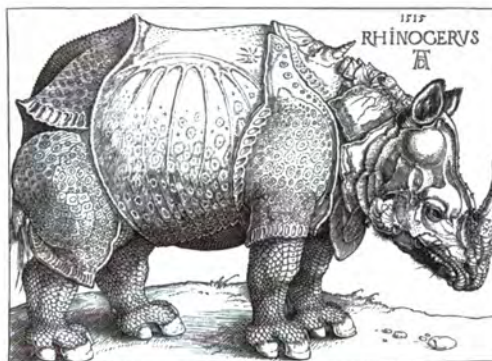


SUMATRAN RHINO

JAVAN RHINO



Unlike the rhinos of Africa, the rhinos of Asia do not live on open plains. Javan and Sumatran rhinos live in wooded areas and spend most of their time in such dense forests that they are seldom seen. As you might expect, they are leaf-eaters.



The one-horned Indian rhino is one of several animals considered to be the origin of the unicorn myth. In medieval Europe, people didn't know what a rhino looked like. The idea of an animal with only one horn fascinated them, and the unicorn was born. The Arabian oryx and other antelopes that appear to have one horn in profile are also possibilities for the mythical unicorn.


Indian rhinos prefer swampy areas, where there is a lot of water to drink and a lot of lush vegetation to eat.



All rhinos like to go into the water, but the Asian rhinos like it best of all. They are excellent swimmers. Indian and Sumatran rhinos can swim across wide rivers with no trouble at all.





A detailed illustration of a tiger attacking a rhinoceros in a lush green jungle. The tiger is on the right, rearing up on its hind legs with its mouth wide open, showing its sharp teeth and red tongue. The rhinoceros is on the left, also rearing up and roaring with its mouth open. The background is filled with tall green grass and bamboo stalks. In the top left corner, there is a small inset box showing a rhinoceros in a different pose. In the bottom right corner, there is another inset box showing a young rhinoceros calf standing on the ground.

When rhino mothers defend their babies, they can be very fierce. In Asia, tigers sometimes try to catch baby rhinos.

But they seldom get the chance to eat one, because rhino mothers put up such a good fight.

In addition to her huge horn, an Indian rhino mother has large, sharp teeth that can easily cut through a tiger's skin.

Newborn rhinos are not helpless like human babies. Within an hour after they are born, they are up on their feet and trotting around after their mothers. Indian rhinos have the biggest babies. They may be 2 feet tall at birth and weigh between 80 and 125 pounds.

**T**he future of rhinos in Africa and Asia is in danger. Rhinos have experienced what biologists call a population “crash.” The number of rhinos has gone down faster and faster.

**Today, rhinos are completely gone** from hundreds of areas in which they were once found. The remaining populations of some species have become very small. The black rhino, Sumatran rhino, and Javan rhino are all considered critically endangered. The Indian rhino and the Southern white rhino are vulnerable—near threatened. The total number of Sumatran rhinos is now 200 to 275. About 50 Javan rhinos remain in the wild. Only 8 individuals remain of the northern race of white rhinos. This rhino is now considered extinct in the wild.

**Like many wild animals,** rhinos suffer partly because people destroy their habitat. Rhinos are found in parts of the world where the human population grows most rapidly. The human need for more food and land in these areas is so great that more and more land is taken away from rhinos and other wildlife every year. By far the worst threat to rhinos comes from a small group of people who kill rhinos illegally so they can cut off their horns and sell them.

**Rhino horn** is extremely valuable—much more valuable than gold in some places. In Asia, many

people think it has wonderful medical and magical powers. They believe that medicine made of powdered rhino horn will cure the most serious diseases, so they are willing to pay almost any price for it. In Yemen, on the Arabian Peninsula, some men pay high prices to use rhino horn as dagger handles to show that they are important and wealthy. When people are willing to pay high prices for rhino horn, poachers kill rhinos.

**Many dedicated people** are trying to save rhinos. Southern white rhinos were highly endangered until a program was begun in South Africa in the 1960s. Although they still need protection, their population statistics have improved dramatically. Maybe similar programs will help other rhinos as well.

**In Indonesia,** a joint program of the International Rhino Foundation and The Rhino Foundation of Indonesia has launched a campaign to stop poaching of the Sumatran rhinoceros. There has been no poaching for the last five years. The two organizations are also cooperating on a breeding program between a captive-born-and-raised male Sumatran rhino,



bred and born at the Cincinnati Zoo, and a female Sumatran rhino from Indonesia. The two were gradually introduced in an Indonesian sanctuary. The female became pregnant, but lost the baby in May 2010. This is not unusual for a first pregnancy, and the team hopes for another pregnancy. If successful with the Sumatran rhinoceros, it is hoped that they may have the same success with the Javan rhinoceros.

**The Indian rhinoceros** recovered from a low population of only 200 individuals to about 2,500 today. An international effort involving several

African countries, Germany's Frankfurt Zoological Society, and the United States Fish and Wildlife Service have worked to increase the population of the black rhino. (For more information, see [www.zoobooks.com/learnmore](http://www.zoobooks.com/learnmore)).

**In the United States and elsewhere**, education programs have been started to convince people that there are no medicinal properties in rhino horn, so there is no need to kill rhinos. To find out what you can do to help rhinos, visit the World Wildlife Fund website at [www.worldwildlife.org](http://www.worldwildlife.org).

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**Indian rhinoceros mother and young**




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#### ON THE COVER:

A Southern White Rhino and her baby at a waterhole. In this issue, read about the successful rescue of this still threatened animal from South Africa.

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