

BLACK RAT

GROUP 1: MAMMALS

ORDER
Rodentia

FAMILY
Muridae

GENUS & SPECIES
Rattus rattus



The black rat is a smaller relative of the brown rat and is found in populated areas throughout the world. It was the carrier of the

KEY FACTS



SIZES

Length: Head and body, up to 9 in. Tail, up to 10 in. Male slightly larger than female.
Weight: 5-7 oz.



BREEDING

Sexual maturity: 3 months.
Breeding season: Throughout the year in warm climates.
Gestation: 3 weeks.
No. of young: 5-10.



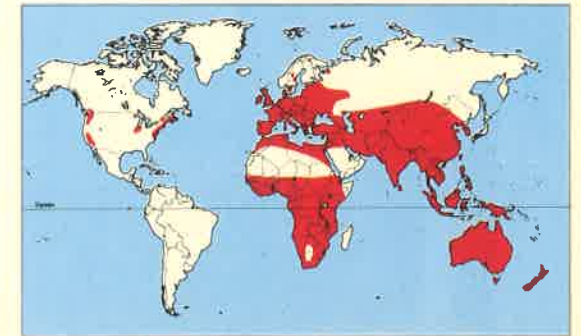
LIFESTYLE

Habit: Sociable, forming colonies near human habitations.
Diet: Mostly vegetable matter; prefers grain and fruit.
Lifespan: Average 1 year.



RELATED SPECIES

There are 78 species of *Rattus*, including the brown, or Norway, rat, *R. norvegicus*, which is common near human habitations.



Range of the black rat.

DISTRIBUTION

The black rat is native to warmer parts of the world. It arrived in North America as a stowaway on ships and is now found in many cities, mainly along the coasts.

CONSERVATION

In colonial times the black rat was abundant in American cities, but it is now outnumbered by the more adaptable brown rat. Neither species is likely to become extinct.

IDENTIFYING THE BLACK RAT

Variations in coat color make it easy to confuse the black rat with the brown rat, but there are clear differences between them.

Oriental rat flea: Carried from Asia and the Middle East in the black rat's coat. It spread the bubonic plague in Europe.



BROWN RAT

BLACK RAT

Coat: Although its color varies, the black rat's coat is sleeker and glossier than the brown rat's coat.

Ears: Smaller on the black rat. They are pink and naked, while the brown rat's are pale and covered with hairs.

Tail: The black rat has a longer tail in proportion to its body, although it is



Brought to Europe in the ships of Crusaders returning from the Holy Land, the black rat carried with it a flea that infected more than 25 million people with the bubonic plague. This unwelcome rodent was severely attacked and is now scarce in much of Europe.

HABITAT

The black rat was widespread in Europe and North America centuries ago, when it had more opportunities to live alongside humans. But gradual improvements in pest control have almost eliminated it from both regions.

Today, the black rat is more prevalent in warmer climates, which it prefers. In the tropics it may live outside among rocks or in tree stumps, espe-

cially in locations where food is plentiful.

In cooler climates the black rat is found almost exclusively in ports and docks. It lives on the upper floors of warehouses and granaries, nesting in warm holes, especially during winter.

Unlike the related brown rat, which is often found in ditches and sewers, the black rat rarely swims.

DID YOU KNOW?

- The largest member of the rat family is the cloud rat of the Philippines, with a body nearly 16 inches long.
- About 95 percent of black rats die before they are a year old. Pesticides are largely responsible for this.

BREEDING

The black rat is active mostly at night, and little is known about its social habits. It is a prolific rodent and breeds throughout the year with a peak breeding period in the summer. Mild winters extend the breeding season, causing an increase in the population.

Once a pair has mated, the male leaves the female and looks for other females to mate

with. Three weeks after mating, the female gives birth to five to ten babies in a nest of rags, straw, and paper.

Born blind, deaf, and hairless, the young huddle together to keep warm. After a week their eyes open, they can hear, and their coats start to appear. At three months, the young rats leave their mother and are ready to mate.

Left: Using its long tail for balance, the black rat can easily run along a ship's rigging.

Right: Young black rats develop fast and leave their mother after three months.



Left: The black rat has good eyesight and a keen sense of smell. It is at home in granaries and warehouses, which provide food and protection.



BLACK RAT & MAN

The black rat carries many fatal diseases including typhus and salmonella. It also hosts the Oriental rat flea, which spreads bubonic plague. For centuries, people have been trying to exterminate the black rat as well as other

rats. Today, the population of the black rat is steadily diminishing in cool climates, where it lives in buildings and is easier to control than the brown rat. The black rat is less easy to control in warmer climates, where it often lives outdoors.

FOOD & FEEDING

The black rat prefers cereals and fruit to live prey. In the tropics it eats coconuts and sugarcane.

This rat causes great damage in grain stores because it has to gnaw constantly to keep its

ever-growing teeth at the right length. It splits open the sacks of grain and eats as much as it can. Then it destroys what is left by trampling on and urinating over the remains.



Far left: The black rat eats primarily cereals and fruit. Like the house mouse, it holds its food in its forepaws while it eats.

Left: The black rat rarely goes outside in a

HUMPBACK WHALE

GROUP 1: MAMMALS

ORDER
Cetacea

FAMILY
Balaenopteridae

GENUS & SPECIES
Megaptera novaeangliae



During its migration the humpback whale can be seen in coastal waters around the world. At breeding sites it utters a mournful

KEY FACTS



SIZES
Length: 42-45 ft., up to 52 ft.
Weight: Up to 72 tons.



BREEDING
Sexual maturity: 2-5 years.
Breeding season: Winter. Female breeds every 2-3 years.
Gestation: 11-12 months.
No. of young: 1, rarely 2.
Weaning: About 1 year.



LIFESTYLE
Habit: Social and migratory.
Call: Complex songs lasting 6-35 minutes and other sporadic sounds. Frequencies from 40-50 kHz.
Diet: Krill, fish, squid.
Lifespan: Up to 50 years.



RELATED SPECIES
The humpback is one of the six species in the Balaenopteridae family that have a dorsal fin. The others are the blue, fin, sei, minke, and Brvde's whales.



Range of the humpback whale.

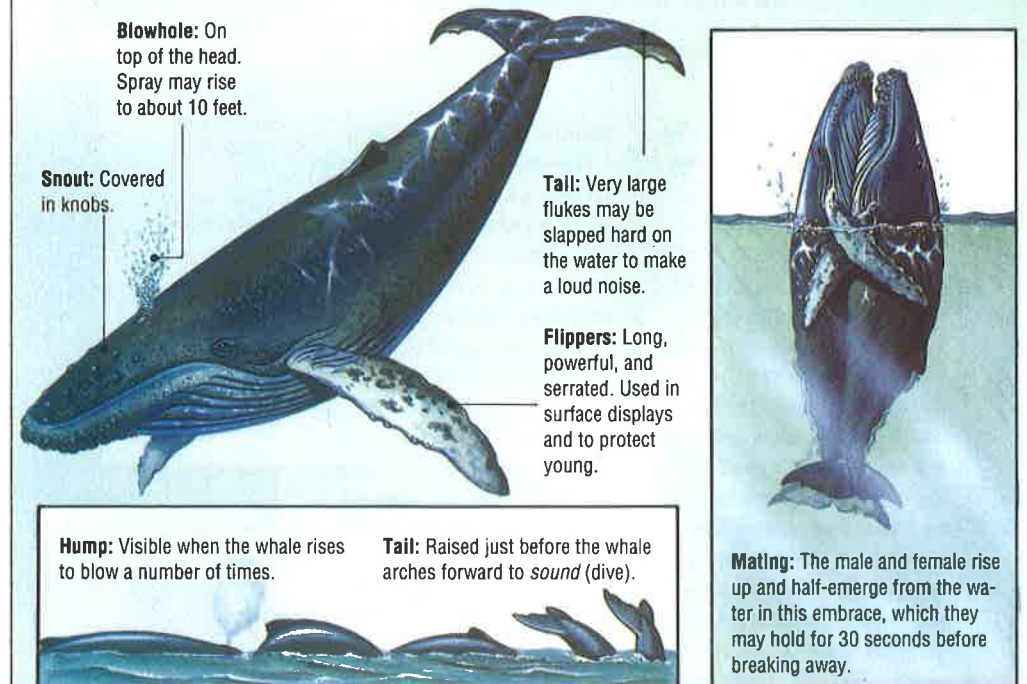
DISTRIBUTION

The humpback whale frequents cold and polar seas for most of the year and subtropical and tropical seas in winter. A few populations live year-round in the tropics.

CONSERVATION

Hunting has reduced the total population of the humpback whale from about 150,000 to between 6,000 and 8,000. Commercial hunting has ended, but the population is still vulnerable.

THE HUMPBACK WHALE



Blowhole: On top of the head. Spray may rise to about 10 feet.

Snout: Covered in knobs.

Tail: Very large flukes may be slapped hard on the water to make a loud noise.

Flippers: Long, powerful, and serrated. Used in surface displays and to protect young.

Hump: Visible when the whale rises to blow a number of times.

Tail: Raised just before the whale arches forward to *sound* (dive).

Mating: The male and female rise up and half-emerge from the water in this embrace, which they may hold for 30 seconds before breaking away.



The humpback whale is easy to distinguish from other baleen whales. It has a broad tail, long, white-edged flippers, and prominent knobs on its snout. The humpback's narrow flippers are almost one-third of its body length. They help this giant mammal maneuver with grace both under the water and at its surface.

HABITS

The humpback whale may be found in all the oceans of the world at certain times of year. There are three main populations: one in the North Atlantic, one in the North Pacific, and one in the southern oceans. These populations are divided into separate "stocks."

The humpback breeds in warm coastal waters. It spends the rest of the year in colder regions. Migration between the two areas follows set routes, and there is little mixing between different stocks. One of the longest migrations is undertaken by Antarctic whales. They swim 4,000 miles north and

breed in the Gulf of Panama.

Humpbacks are often seen in clusters, usually with a female and her calf at the breeding area. These clusters may be males vying for the female's attention and acting as escorts.

Threat displays of the humpback include blowing a screen of bubbles, lashing the tail sideways through the water, and crashing the tail on the water's surface. The whale often *spyhops* (raises its head vertically above the waves) or *breaches* (leaps out of the water to return with a tremendous splash). It may also lie belly up or with its flippers in the air

FOOD & FEEDING

The humpback whale spends spring, summer, and fall in its polar feeding areas. In the Southern Hemisphere it feeds mainly on krill. In the north it eats capelin and shoal fish.

When food is plentiful near the surface, the whale lunges toward it with its jaws open, taking in a mouthful of water and prey. Grooves under its jaw allow it to enlarge its mouth cavity for this purpose. The whale strains the

water out through its *baleen plates* (horny filtering plates in the sides of the mouth), leaving the prey inside.

The humpback uses various methods to trap prey. Tail slapping and breaching may startle fish. Rising bubbles or "nets" of air from whales that are deep underwater can confuse and enclose prey.

Right: *The humpback rushes at plankton or shoal fish from below and gulps them down.*



BREEDING

The humpback usually utters its evocative song during breeding season. Most "singers" are solitary males trying to attract mates. The song is a sequence of cries, chirps, clicks, moans, and groans. It varies from one whale to the next and may last for 35 minutes. It can be heard underwater for 18 miles.

Mating has not been directly observed. But whales have been seen diving together and rising vertically to the surface, belly to belly, and it is thought that they are mating at these times. Gestation lasts almost a year, and the young are born back at the warm breeding grounds. The newborn calf is

13 to 16 feet long. It stays close to its mother for a year, taking at least 10 gallons of milk from her every day for the first five months. The bond between mother and calf is very strong. The female humpback has been known to protect her calf even when she has been mortally wounded by harpoons.

Above left: *A whale makes a spectacular "breach."*

Right: *A cow and calf are escorted in Hawaiian waters.*

Below: *The cow and calf form a close bond.*



DID YOU KNOW?

- Scientists did not record the humpback whale's complex song until 1969. Recordings of the song have been sent into space on the Voyager probes.
- The humpback usually swims at 2 to 9 miles per hour, but it can reach 17 miles per hour.
- The humpback whale sometimes makes threat displays against boats, especially when they are on its breeding grounds.
- An average humpback needs over a ton of food per day, containing more than one million calories.
- Scars from the teeth of killer whales are often seen on humpbacks, especially on the tail. But it is unlikely that these predators could kill a healthy adult humpback whale.
- The humpback dives deep to feed—even to the seabed 650 feet down. It has been known to stay under for 30 minutes.

GIANT FOREST HOG

GROUP 1: MAMMALS

ORDER
Artiodactyla

FAMILY
Suidae

GENUS & SPECIES
Hylochoerus meinertzhageni



The giant forest hog is the largest of the eight species of wild pig. It inhabits the tropical forests and savanna of central Africa.

KEY FACTS



SIZES

Length: Head and body, 5-6 ft. Tail, about 1 ft.
Height: 2½-3½ ft.
Weight: 350-600 lb. Male is heavier than female.



BREEDING

Sexual maturity: 18 months.
Breeding season: All year, but sexual activity increases slightly in October and November.
Gestation: 18 weeks.
No. of young: 2-6.



LIFESTYLE

Habits: Highly social; may be active during the day or night.
Diet: Grass, leaves, berries, fruit, roots, and carrion.
Lifespan: Probably 15-20 years.



RELATED SPECIES

There are 8 species of pig in 5 genera, including the bushpig, *Potamochoerus porcus*, and the wild boar, *Sus scrofa*.



Range of the giant forest hog.

DISTRIBUTION

Found in isolated populations throughout forested areas of central Africa. The largest numbers occur in Cameroon, Gabon, Congo, and Zaire.

CONSERVATION

The giant forest hog is not endangered, but it is threatened in some areas by hunting. Farmers attack it because it may damage crops and can infect domestic pigs with African swine fever.

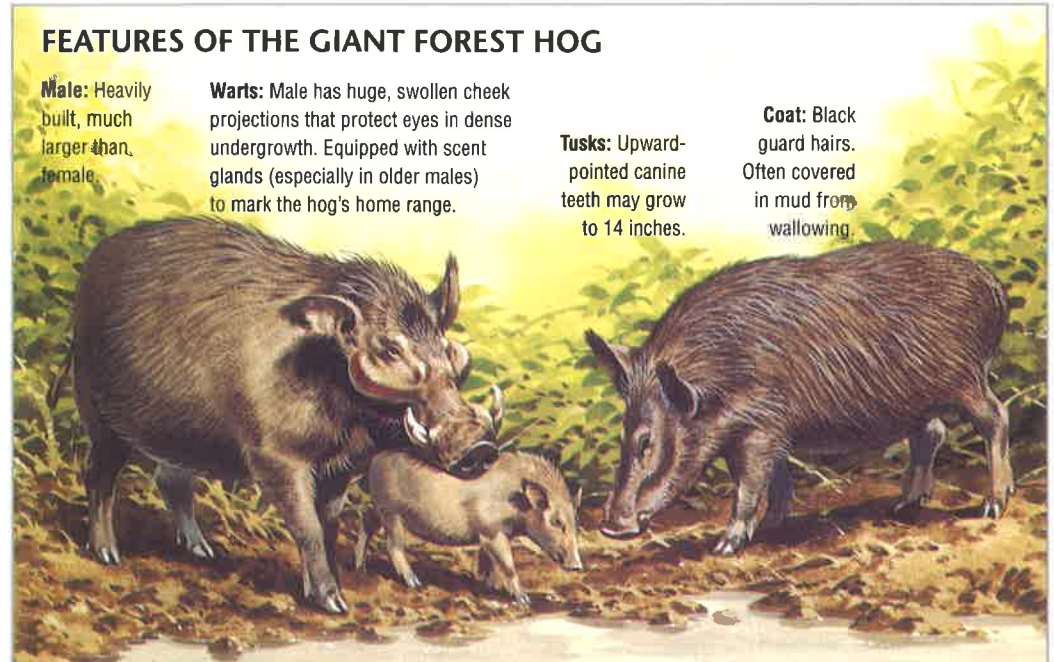
FEATURES OF THE GIANT FOREST HOG

Male: Heavily built, much larger than female.

Warts: Male has huge, swollen cheek projections that protect eyes in dense undergrowth. Equipped with scent glands (especially in older males) to mark the hog's home range.

Tusks: Upward-pointed canine teeth may grow to 14 inches.

Coat: Black guard hairs. Often covered in mud from wallowing.



Tail: Long and tasseled. May be used to swat insects. Never

Young: 2 to 6 in a litter. Born with straw-colored coat that

Female: Smaller than male. Lacks

Hooves: 4 toes on each foot.



In much of its range the giant forest hog is active mainly at night, foraging for food in an extended family group. But in protected areas like national parks, it often roams during the daylight hours. This creature of habit follows tunnel-like paths that it has already forged through dense vegetation to its feeding sites. Its food includes grass, leaves, berries, and carrion.

HABITS

The giant forest hog inhabits both tropical forests and savanna from sea level to an altitude of over 12,000 feet. In the hotter parts of its range and in areas where it is hunted by people, it usually sleeps by day and forages after dark. In protected areas it is often active by day.

The giant forest hog lives in a family group of about 10 individuals. The group occupies an area of about eight square miles, which the hogs mark with secretions from the scent glands around their eyes and lips. The home ranges of several groups may overlap.

Each day the hog takes the same paths to its favorite feeding and drinking areas. It also regularly visits mud wallows. Bathing in the moist mud keeps the hog cool and rids its skin of ticks and other parasites. After bathing, the hog rubs itself against a tree or termite mound to scrape the mud from its skin.

The group of hogs returns to its communal sleeping nest each day. The roof and walls are usually woven from dense undergrowth into a snug, dry shelter. In some areas the hogs may simply nest under an uprooted tree's roots.

FOOD & FEEDING

The giant forest hog forages for food in a family group. As an omnivore, it eats both plants and animals.

In its tropical homeland the hog feeds mostly on the lush vegetation. In open savanna and at the forest edge it grazes on grasses and tender shoots. It also tears up bamboo, crushing the stems and leaves with its powerful cheek teeth.

Within the forest, the hog

Left: The oxpecker helps the giant forest hog by feeding on parasitic ticks in its skin.

feeds mainly on leaves, berries, and fruit, and it may gnaw on exposed roots. Unlike other pig species, it seldom digs with its snout.

At times the giant forest hog eats insects and their larvae, the eggs of ground-nesting birds, and carrion (dead flesh). It seeks out salt licks, such as termite mounds, to obtain needed minerals. It may also feed on and damage crops.

Right: The forest hog keeps returning to the same areas to feed and drink.

DID YOU KNOW?

- The large warts below and behind the giant forest hog's eyes are believed to shield it when it charges through thick undergrowth.
- The hierarchy of hog society can be seen when family groups enter mud wallows and nest sites. The senior male

always leads, and the junior female brings up the rear.

- Some African tribes make war shields from the skin of the giant forest hog.
- The male giant forest hog has reinforced frontal bones to protect it during the ritual head clashes for dominance.



Left: Discovered in 1904, the giant forest hog is one of the last large mammals to become known to naturalists. It is found in forests in central Africa.

BREEDING

A dominant male usually leads each family group. Males establish their position by ritual fighting, charging each other and cracking heads ferociously. Defeated males lead a solitary life away from the group.

Mating occurs throughout the year. The male approaches a receptive sow (female) in his group. If she accepts his advances, the pair mates noisily. Two to six young are born 18 weeks later in a nest that the

sow builds at a distance from her group. When the young are about a week old, the sow leads them back to the group, where they are fed by any sows that can produce milk. The young hogs are weaned at about 10 weeks and become sexually mature at 18 months.

All of the adults protect the young, warning them of danger and defending them from predators. Despite this care, only one or two of each litter survives. Some are crushed by their mother soon after birth, while others may be picked off by hyenas or large cats.

Left: Young hogs nurse from their mother or from other milk-bearing females in the group.



PROBOSCIS MONKEY

GROUP 1: MAMMALS

ORDER
Primates

FAMILY
Cercopithecidae

GENUS & SPECIES
Nasalis larvatus



The proboscis monkey is related to the colobus monkeys of Southeast Asia. Rarely seen in the wild, this endangered species

KEY FACTS



SIZES

Length: Head and body, 1½-2 ft.
Tail, 2-2½ ft.
Weight: 15-50 lb. Male heavier.



BREEDING

Sexual maturity: Female, 4 years.
Male, 4-5 years.
Mating season: Throughout the year, but births coincide with seasonal abundance of food.
Gestation: About 6 months.
No. of young: Usually 1.



LIFESTYLE

Habit: Lives in trees, in social groups of up to 60 members.
Diet: Mainly leaves, but some fruit and flowers.
Lifespan: About 13 years.



RELATED SPECIES

There are 31 species in 4 genera in the Colobinae subfamily. The genus *Nasalis* contains another rare species, the pig-tailed langur, *N. concolor*.



Range of the proboscis monkey.

DISTRIBUTION

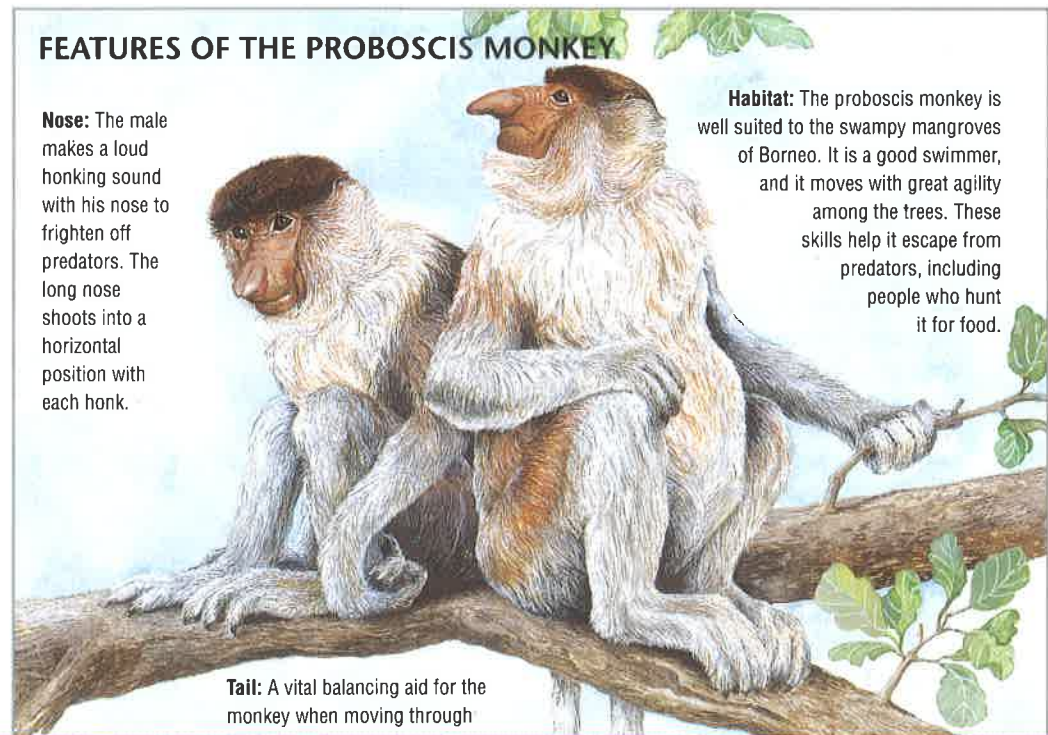
Found only in swampy mangrove forests along the coasts and on the tidal sections of rivers in Borneo.

CONSERVATION

The proboscis monkey is classified as endangered as a result of hunting and habitat destruction. Protected since 1931, it still needs special reserves to ensure its future.

FEATURES OF THE PROBOSCIS MONKEY

Nose: The male makes a loud honking sound with his nose to frighten off predators. The long nose shoots into a horizontal position with each honk.



Habitat: The proboscis monkey is well suited to the swampy mangroves of Borneo. It is a good swimmer, and it moves with great agility among the trees. These skills help it escape from predators, including people who hunt it for food.

Tail: A vital balancing aid for the monkey when moving through



The proboscis monkey is named for the male's long trunklike nose. This tree-dweller favors dense, swampy forests, but much of its habitat has been cleared by humans for lumber and land use. Before 1963 the proboscis monkey had never been bred successfully in captivity, and it is now so rare that it has received international protection.

HABITS

The proboscis monkey spends its life among the trees of dense mangrove forests and swampy river plains. It lives in groups of up to 60 animals, but this society, unlike most monkey societies, is not highly structured. This loose organization may be because the proboscis monkey spends most of its time finding and eating food, leaving little time for group activities.

Each group has a home range of almost one square mile. Proboscis monkeys are not aggressive, however, and they share their spaces with other animals

During the day the proboscis monkey swings from branch to branch, foraging for food high above the ground. Surrounded by the leaves it eats, it rarely travels more than half a mile a day. Since the male is twice as heavy as the female, he moves more slowly.

At night proboscis monkeys sleep together in a group, arranged along a branch in a row. They try to find a strong branch that leans out over the water because this location offers the best protection from predators

FOOD & FEEDING

The proboscis monkey begins and ends each day by eating a big meal. Leaves and shoots are its favorite food, but it will also eat fruit and flowers. Because the monkey does not digest its food very efficiently, it must spend most of the day eating to obtain the nutrients that it needs.

When feeding, the proboscis monkey sits in the fork of a tree, grabs nearby branches, and strips them of their leaves.

Left: The large nose of the male proboscis monkey attracts females in the mating season.

Its long thumbs, which are unusual for a monkey, allow it to grip branches, and its sharp teeth are excellent for shredding leaves.

After a big meal the monkey rests in the tree to digest its food. But soon it must search for more food, either alone or in a group. When a group forages together, one of the larger males squats at the top of a tree and acts as a lookout.

The proboscis monkey rarely has to drink. It gets all the water it needs from the moisture in the leaves it eats.

DID YOU KNOW?

- The proboscis monkey eats so much that the content of its stomach can be over a quarter of its body weight.
- Proboscis monkeys can jump into the water from a height of 50 feet and stay submerged for 30 seconds.
- The proboscis monkey is

hunted by clouded leopards in the trees and by crocodiles in the water.

- The male snorts or honks loudly as a warning. The female sounds like a goose.
- The flesh of the proboscis monkey is a delicacy to the people of Borneo.



Left: The female monkey is about half the size of the male and has a less prominent nose.

Below: The proboscis monkey seems well suited to Borneo's dense mangrove forests. An excellent swimmer, it may drop from a high branch into the river below to swim to another tree.



BREEDING

Proboscis monkeys can breed throughout the year, however most of their young are born when good food supplies are widely available.

When the female is ready to mate, she chooses a male and stares at him, pursing her lips. If he responds with a pouting expression, the pair will mate.

The proboscis monkey usually gives birth to a single infant about eight inches long. Its eyes are open at birth, and

Left: Another female looks after an infant while its mother searches for food.

it can cling to its mother's fur. The baby monkey is covered in short, downy hair, and its face is deep blue. This color gradually changes to the brownish pink of the adult, and the color of the baby's coat changes to grayish yellow or reddish brown.

The females in a group frequently look after each other's young, carrying them around and even nursing them. This behavior allows the mothers to move more freely through the trees when



CHAMOIS

GROUP 1: MAMMALS

ORDER
Artiodactyla

FAMILY
Bovidae

GENUS & SPECIES
Rupicapra rupicapra



The chamois is a species of goat-antelope that lives in mountainous areas, mostly in Europe. Best known as the source of chamois

KEY FACTS



SIZES

Length: 3-4 ft.
Height to shoulder: 2½-3 ft.
Weight: Male, 65-110 lb.
Female, 55-95 lb.



BREEDING

Sexual maturity: 4 years.
Mating: October to December.
Gestation: 5½-6 months.
No. of young: 1, rarely 2.



LIFESTYLE

Habit: Females and young live in herds. Males are solitary except during mating season.
Call: Deep, rumbling bleat.
Diet: Grasses, bark, pine needles.
Lifespan: Up to 17 years in captivity.



RELATED SPECIES

There are 9 subspecies of chamois. It is closely related to the Rocky Mountain goat, *Oreamnos americanus*.



Range of the chamois.

DISTRIBUTION

Found in the Pyrenees, Apennines, Alps, and Carpathians. Also found in southwestern Asia and introduced in New Zealand.

CONSERVATION

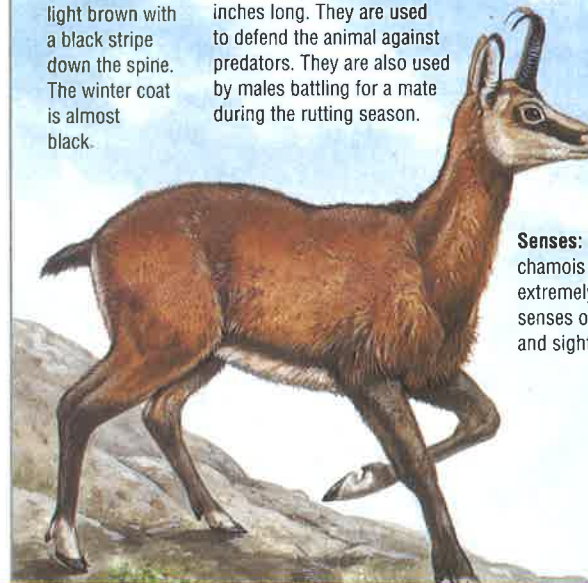
The chamois was once common throughout central and southern Europe. But hunting for meat and trophies has caused many populations to become severely depleted or even extinct. The Italian subspecies, *R.r. ornata*, now numbers less than 400.

FEATURES OF THE CHAMOIS

Coat: The summer coat is light brown with a black stripe down the spine. The winter coat is almost black.

Horns: The sharp, curved horns can grow up to 8 inches long. They are used to defend the animal against predators. They are also used by males battling for a mate during the rutting season.

Senses: The chamois has extremely acute senses of smell and sight.



HOW THE HOOF GRIPS THE ROCK



Thin, sturdy outer ridge grips rock, while soft inner pad keeps chamois from slipping. Hoof can be closed to grip narrow ledges or splayed to grip in snow.



Two simple toes on each foot keep chamois from slipping downhill.



The chamois is a sturdy, nimble animal that has remarkable leaping ability. Its specially adapted hooves have soft elastic soles to keep the animal from slipping. These hooves allow the chamois to grip the steep mountain slopes of its ranges.

BREEDING

During the chamois rut, from mid-October to December, the males join the females and begin to fight for a mate.

Males mark their territory with a scent that is emitted from glands located behind the horns. They then chase each other, bleating deeply. They finally engage in a fierce fight, pushing and tearing at

each other with their horns.

Between April and June the female gives birth to one kid, sometimes two. By that time the herd has split into small groups again. Just before they give birth, the females drive all the *yearlings* (young from last year's rut) away. Once the kids are weaned, the yearlings can rejoin the group.

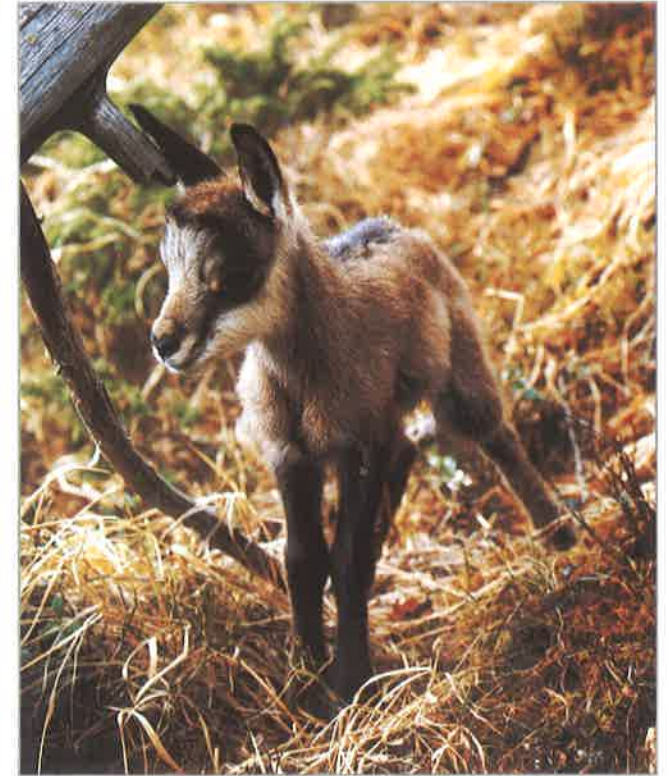
Left: A yearling is allowed to rejoin its mother once she has weaned the latest kids.

Right: Early walkers, the young chamois are able to escape predators and find food.

DID YOU KNOW?

- According to a Swiss legend, the chamois's curved horns act as shock absorbers in case it falls on its head.
- The first part of the chamois's scientific name comes

- from the Latin word *rupes*, meaning "rock."
- During the rut it is not uncommon for one of the fighting males to have its belly or throat ripped open.



HABITS

During spring and fall the chamois lives in alpine forests, just above the tree line. The chamois does not live on mountain tops, but it may move higher up the mountain in summer. In winter it moves down to slopes as low as 1,640 feet and settles in the forest,

where food is more plentiful.

Females and young usually live in small groups on their own. However, in winter they may join with other groups to form a herd of up to 100 animals. Males are solitary, joining the herd only during the *rut* (mating season) in the fall.

Right: The chamois's black or dark gray winter coat becomes much lighter brown with a black stripe on the back in summer. The tufts of hair along the back are often displayed in hunt-



CHAMOIS & MAN

The chamois's predators include wolves and lynx. Eagles have been known to prey on kids. But people are the main enemy of the chamois. Its skin is made into chamois leather,

Left: The chamois is extremely agile and can leap distances as far as 23 feet.

and the tufts of hair along the back of the male chamois are displayed in hunters' caps.

Since it was introduced in New Zealand, the chamois has flourished there. In fact, New Zealanders had to start a hunting program to control the number of chamois.

FOOD & FEEDING

The chamois is a grazer and browser, with a diet that consists mainly of mountain grasses and lichen found on the rocky slopes. In the forest, however, the animal has been known to eat pine needles as well as bark.

Left: The chamois leaves the herd to search for food alone in winter





JAVAN RHINOCEROS

GROUP 1: MAMMALS

ORDER
Perissodactyla

FAMILY
Rhinocerotidae

GENUS & SPECIES
Rhinoceros sondaicus



The Javan rhinoceros is now found only in the dense forests of a reserve in Java. This peaceful creature is

KEY FACTS



SIZES
Height: 6 ft.
Length: 11-12 ft.
Weight: 3,500 lb.
Length of horn: 10-11 in.



BREEDING
Sexual maturity: Male, 6 years.
Female, 3 years.
Mating: No set season. Female comes into heat every 46-48 days.
Gestation: 16 months.
No. of young: 1.



LIFESTYLE
Habit: Solitary.
Diet: Shoots, twigs, berries, leaves, and fallen fruit.
Lifespan: 21 years in captivity.



RELATED SPECIES
The Indian rhinoceros, *Rhinoceros unicornis*, is the closest relative. It was once thought to be the same species.



Present range of the Javan rhinoceros.

DISTRIBUTION

Now restricted to the Ujung Kulon National Park in Java. Formerly found in eastern India, Southeast Asia, Sumatra, and Java.

CONSERVATION

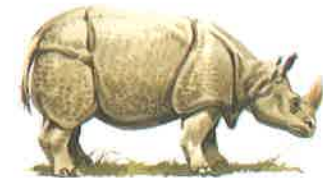
About 50 Javan rhinos live on the reserve in Java, but the species may not survive. A herd of 10 to 15 animals that may be Javan rhinos was recently found in southern Vietnam.

FEATURES OF THE JAVAN RHINOCEROS

Horn: The male Javan rhino's horn is much smaller than the Indian rhino's horn. The female has almost no horn.

Body folds: Javan and Indian rhinos both have folds in their hide across the back and behind the shoulder.

THE INDIAN RHINOCEROS



Female



Male

Tail: The Indian rhino has a groove in its rump that hides most of its tail. The Javan rhino's tail is more visible.



The Javan rhinoceros once roamed across seven countries. Today there are only about 50 Javan rhinos in existence. Little is known of its habits because the species was already rare when Western scientists discovered it.

BEHAVIOR

The Javan rhinoceros lives in dense rainforests. It prefers low altitudes, but there is evidence of rhinos living as high as 3,000 feet above sea level. A nineteenth-century naturalist found some on the rims of active volcanoes.

The Javan rhino favors places with a good water supply. It likes to roll about in a *wallow*, or muddy pit. Instead of digging its own, it usually enlarges a pig wallow or a natural pit.

The Javan rhino is a solitary

territory. It can go several days without drinking and may travel great distances to find water.

The male sometimes sprays bushes with orange-red urine to mark his territory and to inform other males of his presence. He may also mark his territory by defecating in creeks, on paths, or in fields of manure up to 30 feet wide.

The Javan rhino has bad eyesight. It is alerted to danger by its keen hearing and

BREEDING

The female Javan rhino reaches sexual maturity at about three years of age. She *comes into heat* (is ready to mate) every 46 to 48 days. Mating occurs seasonally and is probably a noisy and aggressive spectacle.

A single calf is born after a gestation period of about 16 months. The cow suckles her calf for up to two years and is very protective. After two years the calf starts to venture out without its mother.

Left: A Javan rhino cools off by submerging itself in a river or stream.

Right: The rhino is well camouflaged in the dense foliage of Java's rainforest.



DID YOU KNOW?

- Orange-red splashes of rhino urine on bushes were once thought to be secretions from its nasal gland.
- Javans used to believe that the rhino ate fire.
- Nineteenth-century travelers followed the Javan rhino's tracks through the forest because they knew the tracks would lead them to water.

JAVAN RHINO & MAN

Since the mid-1800s the Javan rhino's range has been greatly reduced. Human settlements have forced it into remote areas. The population's decline is due to both poaching and

legislation. Javan rhinos were plentiful in the mid-1700s and caused extensive damage to crops. The government gave rewards to hunters, and 526 rhinos were killed in two years.

FOOD & FEEDING

The Javan rhino eats about 150 different plant species. It prefers shoots, twigs, young foliage, and fallen fruit.

The area where a Javan rhino feeds is easy to spot because it is usually scattered with up-rooted *saplings* (young trees). To fell a tree, the rhino leans against it with its shoulder. Then, as the tree starts to give way, it forces the tree down with its front legs. Many sap-

lings survive this assault and put out new shoots. Some even grow from a horizontal position on the ground. The rhino's tree-clearing activities provide it with suitable foraging ground for some time and stimulate regeneration of the forest.

The Javan rhino also feeds from bushes and low-hanging branches. The rhino's upper lip is specially adapted for grasping, and it may use this lip to tear leaves from the crown of a



Left: A Javan rhino uses its upper

SIBERIAN TIGER

GROUP 1: MAMMALS

ORDER
Carnivora

FAMILY
Felidae

GENUS & SPECIES
Panthera tigris altaica



The largest living cat in the world, the Siberian tiger possesses both grace and beauty. Although it spends a lot of time

KEY FACTS



SIZES

Length: Male, 9-12 ft. head to tip of tail. Female smaller.
Height: About 3½ ft. at shoulder.
Weight: 400-650 lb.



BREEDING

Sexual maturity: 3-5 years.
Mating: No particular season.
Gestation: 3-3½ months.
Litter size: Up to 6 cubs, but usually 3-4.



LIFESTYLE

Habits: Male is solitary. Female lives in family units. Mostly nocturnal.
Diet: Deer, boar, elk, lynx, bear; also smaller prey such as fish, rabbits, and hares.
Lifespan: Up to 25 years.



RELATED SPECIES

In all, there were 8 subspecies of tiger. Of these 3 are extinct, and the remaining 5 are endangered.



Range of the Siberian tiger.

DISTRIBUTION

Found in the Amur-Ussuri region of Siberia; also in northern China and Korea.

CONSERVATION

The Siberian tiger is an endangered subspecies. It is estimated that there are no more than 200 of these animals left in the wild. There are probably nearly as many Siberian tigers in captivity as there are roaming free.

FEATURES OF THE SIBERIAN TIGER



CLAWS RETRACTED

The claws are kept in when resting or walking.



CLAWS UNSHEATHED

Long, sharp claws spring out when hunting.

The **Siberian tiger** is much larger than its relative the **Bengal tiger**, which has a darker coat.



Coat: Along with its striped and yellowish winter top coat, the Siberian tiger has white undersides. The white extends to the back legs and the tail.

Body: Large and heavily muscled, giving it great strength.



Hearing: Pricked ears funnel sounds efficiently to the inner ear.

Sight: Excellent binocular and color vision. Night vision is more than five times better than a human's.

The rare Siberian tiger gets its name from its cold homeland, which is covered in snow for much of the year. Its range is larger than that of any other tiger subspecies, and it frequently embarks on long journeys in search of food.

HABITS

The Siberian tiger occupies a very large territory. Ranges of more than 4,000 square miles have been recorded. The tiger may occupy the same territory for many years if food sources are stable within the area. If prey is scarce, it often migrates hundred of miles.

Both males and females mark the boundaries of their ranges with urine and by scratching trees. But only the male defends his territory against other

males, concentrating on the most important parts, such as a boundary close to a female's territory or an area rich in food.

The male tiger is solitary, shunning other males. He allows tigers of either sex to pass through his range but is more tolerant of females. The female is sometimes accompanied by her young.

Right: *The fearsome jaws of the Siberian tiger bring instant death to its prey.*

DID YOU KNOW?

- Siberian tigers are capable of dragging prey that would take more than a dozen men to move.
- One Siberian tiger traveled 620 miles in 22 days in search of food.
- The Siberian tiger needs to

eat over 20 pounds of meat a day to sustain itself in the cold climate. It is capable of eating over 100 pounds of meat in one sitting.

- The heaviest Siberian tiger on record weighed almost 850 pounds.



BREEDING

Tigers mate at any time during the year. A female shows that she is ready to mate by leaving urine deposits and scratch marks on trees. In Siberia, where a tiger's range is vast, she may go in search of a male.

The female is receptive for only three to seven days. During this time a pair will mate many times, after which the male leaves to mate with another female.

After a gestation period of three to three and a half months, three or four blind cubs are born in a sheltered den. They are nursed by their mother, who rarely leaves

Left: *To escape the unwanted attention of flies, breeding tigers often mate in the water.*

them. At about two weeks old their eyes open and their first teeth begin to grow.

At three months the cubs start to leave the den, and the mother brings them meat to eat. They continue to take her milk until they are five or six months old. At this stage they may begin to accompany her on hunting trips.

The cubs are less than a year old when they start to hunt for themselves. At two years old they can kill large prey, but they will not leave their mother until they are three to five years old. They then start to look for their own territories and mates.

Right: *At six months, cubs often accompany their mother on hunting trips.*

FOOD & HUNTING

The Siberian tiger spends a lot of time hunting because only about one in ten of its hunting trips is successful. It preys mainly on deer and wild pig, but it also eats fish.

Creeping to within 30 to 80 feet of its victim, the tiger pounces and grabs the prey by the nape of the neck with its back feet still planted firmly on the ground.

This nape bite kills small prey,

but larger prey is brought to the ground before being killed by a suffocating bite to the throat. If the tiger misses its prey on the pounce, it may chase it for up to 650 feet but rarely catches it.

When it does kill its prey, the tiger drags it to cover, usually near water. It then eats its fill, covers up the remains, and goes to sleep. Later it eats the rest of the carcass.



Left: *During the harsh Siberian winter the tiger's coat loses some color. This helps it blend in with its snow covered habitat.*



SPECIAL ADAPTATIONS

The Siberian tiger's winter coat lacks the red stripes of tigers from warmer climates, but its white coat helps camouflage it in its snowy habitat.

Because it has to with-

stand temperatures as low as -50°F , the Siberian tiger grows a longer and thicker coat than other tigers. It also develops a layer of fat on its flanks and belly that helps to insulate it.

