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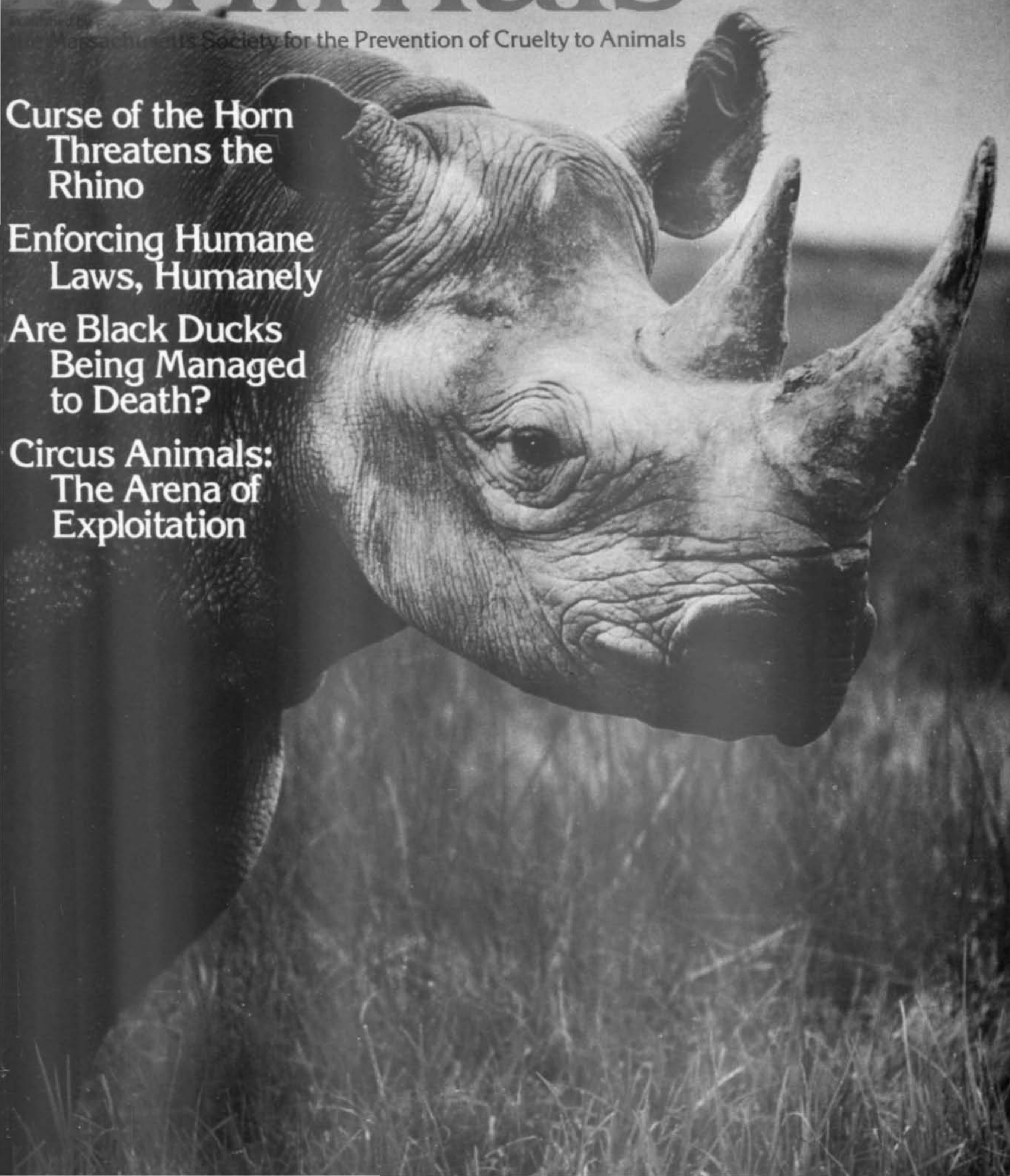
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**Curse of the Horn
Threatens the
Rhino**

**Enforcing Humane
Laws, Humanely**

**Are Black Ducks
Being Managed
to Death?**

**Circus Animals:
The Arena of
Exploitation**



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Cover & 16

Butchered for the horn to which folk medicine has ascribed incredible powers, rhino carcasses litter the landscapes of their native habitats. Barbara Sleeper reports on "The Curse of the Horn." Cover photograph by Bob Citron.

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The Curse of

Misguided myths of potency and aggression make rhino horn a coveted commodity and a prime poachers' target

Rhinos, Earth's second-largest land mammals, are being slaughtered to the point of extinction. In Africa and Asia ruthless poachers seeking rhino horn shoot and spear the two-ton, gray giants. Hacked and butchered carcasses lie festering in the tropical sun, gaping holes the only vestige of their once majestic horns. Unfortunately there are many markets for rhino horn. Some people value it for its supposed curative powers, though pharmacological tests show that belief in these powers is completely groundless. In truth, the slaughter of the world's remaining rhinos is tragically pointless, and accomplishes nothing but the decimation of another species.

I first encountered a black rhino near Kenya's Tsavo National Park in 1974. As we bumped along a dirt road in an open Land Rover, a large bull charged us from out of the bush—he was snorting mad and closing in fast. The animal was orange, the same color as the soil, and he was glowing in the early morning sun. Notoriously aggressive, black rhinos can charge at thirty-five miles an hour and maneuver their muscular bulk in quick, quarter-horse turns. We had done nothing to antagonize this prehistoric beast, except drive through his home range. Especially vulnerable in the open vehicle, we watched the warm-blooded tank thunder after us, horns lowered and head swinging from side to side. Luckily our horsepower was greater than his, and we eventually outdistanced him.

The image of that bellowing rhino has lingered. "To see for the first time a rhinoceros in the unspoiled and uninhabited wilderness," observed naturalist Hugh Cott, "is to be transported to another age, as if one were viewing the world in the middle Pleistocene long before man had arrived upon the stage. Its heavy build, median nasal horns, scale-like naked skin, small eyes and dull wits all seem to mark it as coming from antiquated stock."

The fossil record shows that rhinos were once quite abundant, numbering more than thirty species. Distantly related to tapirs and horses, the Rhinocerotidae appeared in Europe over 60 million years ago and spread to many continents in a multitude of forms. The woolly rhinoceros, a species adapted to the cold with long, thick hair, was extinct by the end of the glacial period. Perfectly preserved specimens of this remarkable beast have been excavated from the Siberian permafrost.

The largest terrestrial mammal ever, in fact, was a rhinoceros. The 35-million-year-old bones of *Baluchitherium*, which stood eighteen feet high and thirty-four feet long, were found in Kazakhstan on the banks of the Tschulka River. These giant rhinos were hornless, with long necks and huge, columnar legs. They became extinct during the Miocene epoch, leaving no descendants.

Today only five species of rhinos remain. Since 1970 the world's rhino population has fallen by 70 percent, in part because of habitat disturbance, including civil wars in impoverished African countries, but also because of illegal trade in rhino products, particularly the horn. In the past fifteen years Kenya, Uganda, and northern Tanzania lost 90 percent of their black rhinos. It is believed that fewer than 20,000 rhinos survive in Africa; in Asia, only about 2,300 remain. In the early 1980s elephant specialist Iain Douglas-Hamilton estimated that there were possibly only six black rhinos left in all of Uganda.

The black rhinoceros (*Diceros bicornis*), the smaller of the two African rhino species, stands five feet at the shoulder and weighs about 3,000 pounds. A massive animal, it has been called the "dreadnaught of the bush" due to its feisty, charge-everything temperament. Black rhinos have chased trains, tipped over elephants, and routinely attacked people and vehicles. They are especially belligerent in areas where they have been persecuted by humans.

To confuse the black rhino with the docile white rhino can be a lethal mistake. No animal is more blindly aggressive than a wounded black rhino, or a female with her calf. Attempting to photograph a mother and calf in Tanzania's Ngorongoro Crater a few years ago, we were quickly chased off by the mother's bayonet charge toward our vehicle. During a nocturnal wildlife-viewing session at Mount Kenya's Mountain Lodge I watched as a black rhino materialized, ghostlike, out of the darkness. On his nervous approach to the man-made pond and salt lick he charged at bushes, rushed and snorted after several wallowing Cape buffalo, and chased a wart hog, threatening everything that came across his path, even his own shadow.

Because they lack sweat glands, rhinos spend most of the day resting in the shade or in mud wallows. Dust baths also help them to cool off and avoid insect pests. Only in late afternoon do they begin to browse, remaining active during part of the night.

The black rhino is equipped with a prehensile upper lip, used almost like a finger, for browsing. Pointed and extendable, the lip is adapted for seeking out fruits and shrubs. A preferred item on the animal's vegetarian menu is acacia—thorns and all. Black rhinos inhabit bush country, especially thorn scrub, where they eat the available coarse, prickly vegetation.

The black rhino's relatively short head extends hori-

the Horn

By Barbara Sleeper

Photographs By Bob Citron



Nearsighted rhino relies on a keen sense of smell to detect approaching predators. Experts believe the rhino can smell odors originating up to half a mile away.

zontally from its voluminous body. The ears are small and fringed with thick hair. Rhinos are extremely nearsighted, but have a good sense of smell. They spray urine and stomp in their own dung in order to scent-mark trails and home ranges, navigating from one scent-post to the next.

Rhino bulls occasionally engage in deadly battles over home turf and females in estrus. Females will attack when in heat. The battle-scarred contestants can be gored, crippled, or killed, and rhino calves are especially vulnerable during such encounters.

Rhinos reproduce, on average, every five years,

and the young remain with the females for two or more years. Although no one knows for sure, rhinos are thought to live about fifty years.

"The nose horns, which are rather loosely attached to the skin, represent the weak point in the construction of a rhinoceros," noted biologist Bernhard Grzimek. The horns are not true horns at all, but are composed of a stiff, matted, hairlike fiber. The horns of both African species vary in shape and length, but the black rhino's are usually longer. Sometimes the horns are damaged or broken off, but can regenerate about three inches a year.

(Overleaf) Horns of a dilemma: the black rhino, indigenous to Africa, has been hunted to near extinction by poachers seeking only its horns. Some Asian cultures believe that rhino horn is a potent aphrodisiac as well as a folk-medicine cure-all.







Dinner party for grazing Indian rhinos includes a flock of cattle egrets that dine on insects flushed from the grass by the rhinos' huge feet.

In the early 1970s we spotted black rhinos fairly easily in the major East African parks, as they lolled about in the shade of acacia trees, but during a return visit to Kenya's parks in 1980 we didn't see a single rhino. In Tanzania's Serengeti National Park between 1977 and 1978 the odds favored seeing a hornless rhino carcass rotting on the plains, rather than a live animal. In just five years, the impact of poaching on both rhinos and elephants had become sadly obvious.

Called the square-lipped rhino, the white rhino (*Ceratotherium simum cottoni*) stands from five to more than six feet tall at the shoulder and can weigh up to three tons. It is the largest of the five rhino species, and qualifies as the second largest terrestrial mammal (after the elephant). Two subspecies of white rhino survive. The northern subspecies is nearly extinct in Uganda and Sudan; under strict protection, the southern subspecies numbers around 3,000 in Natal, South Africa.

White rhinos have a pronounced hump on the back of the neck, and a long, massive head which is held low. One of the fastest ways to distinguish between the two African species is to look for the white rhino's broad, square muzzle used for grazing grass, its primary food. The enormous anterior horn, often longer and thinner on females, is backed up by a second, shorter one. The largest white rhino horn on record was more than five feet long.

Remarkably docile, white rhinos will allow humans to approach within several yards. This trait, coupled with their poor eyesight, makes the animals easy targets for poachers. While on a foot safari in a private game reserve in Natal, we walked within a stone's throw of a wallowing white rhino. The mammoth head, horns, and body of this megabeast evoked an encounter with the legendary unicorn. Docile to the point of domesticity, he was nowhere near as threatening as his cousin the black rhino, and he paid no attention to us as he lazed about in the mud.

The Javan rhino (*Rhinoceros sondaicus*) stands five to five and one-half feet at the shoulder and weighs about one and one-half tons. The males have a weak horn, and females are often hornless. They live in dense jungle where they feed on foliage. The Javan rhino, on the verge of extinction, is distinguished as one of the world's rarest animals. Fewer than seventy survive in Java's Ujung Kulon Nature Reserve, created in 1921 to protect the rhinos. Restricted to one small area, the remaining animals are especially vulnerable to disease.

The Curse of the Horn

The Sumatran rhino (*Dicerorhinus sumatrensis*), the smallest living rhino, weighs a mere ton and measures three and one-half to five feet at the shoulder. Called the hairy rhino, it is covered with bristly hair that thins with age. Around the turn of the thirteenth century, Marco Polo saw and described the Sumatran rhinos of the Malayan Archipelago. The first rhino ever born in captivity was a Sumatran rhino, born on January 30, 1889, in India's Calcutta Zoo.

In the 1970s field biologist Markus Borner spent three long years patiently trying to census and study the natural history of the Sumatran rhino. It was a frustrating project: Borner did find their telltale ace-of-clubs footprints, but saw his elusive subject only once, for just a few seconds, when a rhino charged through his camp.

Sumatran rhinos once ranged over all of East India and Indonesia, but the timber industry and the spread of rubber and oil-palm plantations destroyed most of their natural habitat. From 300 to 500 Sumatran rhinos survive in the rain forests of Indonesia, Malaysia, Thailand, Burma, and possibly Laos and Vietnam. Too rare to establish breeding pairs in captivity, the species faces an uncertain future.

Called the great Indian one-horned rhinoceros (*Rhinoceros unicornis*), the Indian rhino is almost as big as the African white, measuring five and one-half feet at the shoulder and weighing 4,000 pounds. These giants are skillful swimmers, capable of crossing wide rivers. Strict protection in India and Nepal has enabled the species to increase from just 900 individuals in 1970 to more than 1,700 today. This recovery may in part be due to an effective antipoaching campaign that doles out a single punishment to all poachers—death.

In northern India's Kaziranga National Park Indian rhinos are so abundant they appear to be almost as common as cattle. Their deep folds of skin, knobby prominences, and visible ribs give them the appearance of armor-plated tanks equipped with a single, menacing horn. Caked mud and dust enhance their aura of antiquity.

We counted more than twenty-five rhinos during one morning ride in Kaziranga. They were everywhere, resting in mounds of crumpled elephant grass, wallowing in ooze, encircled by cattle egrets as they grazed. We saw rhinos submerged in water like hippos, with only eyes, ears—and horns—visible at the surface. Others walked about with high-water marks on their sides, looking like mobile mud pies.

Reminiscent of the black rhino in temperament, Indian rhinos engage in horn-clashing mating battles, and protective cows charge at anything that could possibly threaten their young.

Humans have pursued rhinos since prehistoric times. Wall paintings in the early Stone Age caves of Pech-Merle, Rouffignac, Colombière, and Les Trois Frères depict rhino-hunting scenes that suggest the animals were granted mystical significance even then. Buddhists, Muslims, and Hindus used decorative cups carved from rhino horn to detect poison; in China, rhino horn was made into ceremonial cups and dishes for washing paint brushes.

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Armor-thick folds of skin and a single horn distinguish an Indian rhino from its African kin. Indian rhinos inhabit grassy plains and swampy areas, and wander a vast territory in search of food.

Rhino horn was also fashioned into Indian knife handles, Chinese sword handles, and Sudanese walking sticks. In Abyssinia, rhino skin was pounded into semitransparent shields. In Borneo, another place where the rhino was credited with supernatural powers (including the ability to relieve severe labor pains), its feet and toes were worn as amulets.

What happened in the 1970s to bring on the rampant destruction of so many of the world's remaining rhinos? Dr. Esmond Bradley Martin, vice-chairman of the African Elephant and Rhino Specialist Group of the International Union for Conservation of Nature and Natural Resources (IUCN), attributes rhino decimation to an increased demand for rhino horn not only for traditional medicines, but for a new market in the suddenly oil-rich North Yemen, where rhino horns are carved into dagger handles valued up to \$13,000 each. "There is a feeling that rhino horn handles are superior to all others," writes Martin, "as there is a mystique about the rhino as an aggressive, potent animal." Yemen became the greatest consumer of rhino horn during the 1970s, importing approximately 40 percent of the world's total consumption for dagger handles. Between 1969 and 1977 North Yemen imported 49,819 pounds of rhino horn. During that time the world market also consumed an annual average of 7.75 tons of horn, or roughly 23,000 rhinos.

Markus Borner calculates that between 1977 and 1981 the price for rhino horn increased approximately 2,000 percent. Today in Mandalay, Asian rhino horn sells for the equivalent of \$10,000 a pound; African rhino horn sells for a little more than half that price in Singapore.

To save the five species of endangered rhinos from extinction, the World Wildlife Fund (WWF) mounted an international fund-raising campaign for a series of conservation projects developed by the IUCN in Africa and Asia. Funds from the Save the Rhino campaign have been committed to antipoaching operations, creation of new reserves, reinforcement of national park operations, and public education.

As part of the campaign, Martin investigated some of the many markets for illegal rhino products. He found small bags of pulverized rhino bone used as talismans to thwart thieves, pieces of rhino skin sold to ward off evil spirits or to neutralize snakebites, and ground rhino horn used as an aphrodisiac. Traditional medicine shops through-

The Curse of the Horn

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out Asia still prescribe preparations made from rhino parts to treat ailments ranging from earaches to asthma.

To dispel much of the folklore associated with rhinos, the WWF hired Hoffmann-LaRoche and Company to conduct a special pharmacological study of rhino horn. The company issued a report in 1983 stating that they found no evidence that rhino horn has any medicinal effect as an antipyretic (fever-reducing agent). Their tests also showed that rhino horn, made of agglutinated hair (like fingernails), has no analgesic, anti-inflammatory, spasmolytic, or diuretic properties, and no bactericidal effect against suppuration and intestinal bacteria.

"In other words, ingesting doses of rhino horn has exactly the same pharmaceutical value as chewing your own fingernails," says Clive Walker, director of the Endangered Wildlife Trust in South Africa. "It is just so senseless. A creature that once walked alongside the dinosaur has now been brought to the brink of extinction in just two generations for medicinal potions and macho ornamentation. Myths and legends may die hard, but in the process thousands of rhinos are lying dead and horribly mutilated in the African bush."

While there are two success stories in the effort to save rhinos—the white rhino in South Africa and the Indian rhino of India and Nepal—the three other species, along with the northern subspecies of the white, remain in peril. "In a drastically reduced population the [scent]-marking system cannot be maintained, so that intra-specific communication is greatly reduced and with it the chance of reproduction," explains Borner.

Maintaining genetic diversity is also a serious concern, and one that complicates efforts to regenerate rhino populations. Excess animals from the two subspecies of white and possibly more than one of black could be translocated to other parks where they would be safe, but the subspecies might interbreed and genetic integrity would be undermined.

"Conservation efforts alone will not save the rhino," concludes Martin. "The trade in rhino horn must be stopped first." This is a tall order. In 1980 Japan ratified the Convention on International Trade in Endangered Species (CITES), making it illegal in that country to import rhino horn. In 1982 Yemen agreed to a total ban on imports of endangered African rhinoceros horn, yet it is doubtful that these helpful steps will stop the illegal trade in rhino products.

In the meantime, the curse of the horn continues. Armed guards stand watch over translocated white rhinos in Kenya's Meru National Park; more than 500 armed soldiers guard the Indian rhinos of Nepal's Royal Chitawan National Park; and breeding black and white rhinos graze behind the safety of expensive steel fences in Solio Wildlife Sanctuary near Mount Kenya. Everywhere that wild rhinos still exist, armed antipoaching patrols are on the march. Only time will tell whether guerilla warfare and paramilitary automatic weapons can succeed against a lucrative black market fueled by the invisible force of groundless yet tenacious traditional beliefs.

Wildlife expert Barbara Sleeper reported on the illegal trade in endangered species for the December 1984 Animals.