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Malaysia: A Look at the Leaders of Tomorrow

Thailand's Vietnamese: A Ban on Marriages?

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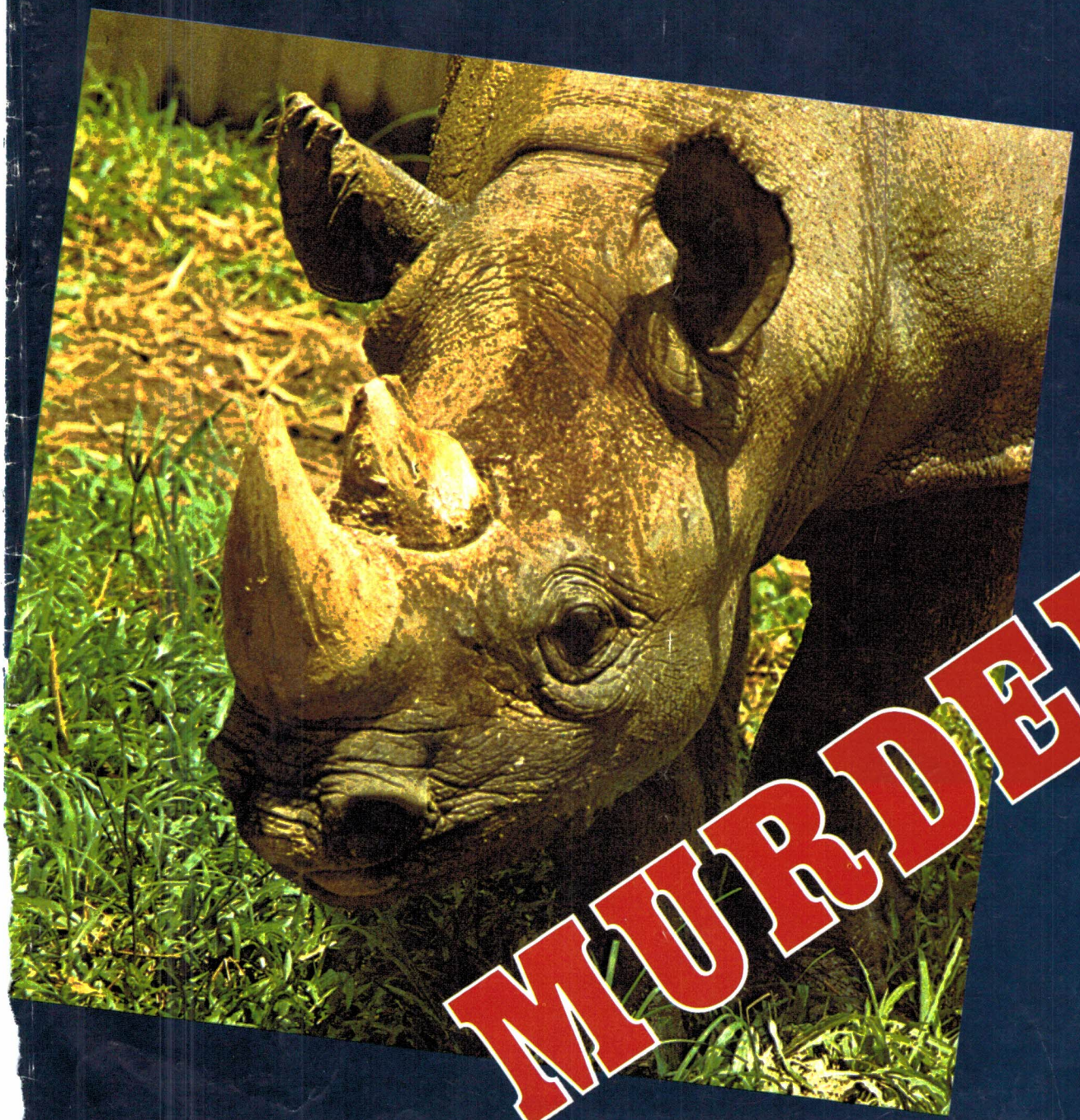
The Creature Your Children Will Never See



MURDER!

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The End of the Road for Southeast Asia's Rhinos
The demand for the horn of the rhinoceros has all but killed the animal off. In hidden nooks of Southeast Asia's jungles, groups of four or five cling by a thread to survival. Of the one-horned species, numbers are down to about 40; perhaps 140 two-horned rhinos remain. Wildlife experts are trying to save the beasts, but with horn fetching US$12,000 a kilo, their chances are slim. **20** Cover design by Henry Steiner

A Retreat for the PLO?
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F. Vollmar/World Wildlife Fund

Unlovely survivor of the Ice Ages, the two-horned species clings on in the last forest hiding places, but its chances are slim

WILDLIFE

Southeast Asian Rhinos/The Cover

Extinction Is Forever

In the fervent urgency of arousal, a rutting rhinoceros bull copulates vigorously for an hour or more, ejaculating every two or three minutes. To the ancient sages, four tons of sustained ecstasy — not to mention the all-too-obvious symbolism of that rigid curved protrusion rearing above snorting nostrils and beady, self-satisfied little eyes — seemed ample evidence that this unlikely and unlovely beast possessed the secrets of sexual potency. All the alchemist had to do was to distil from rhinoceros horn a magic potion, and ageing man's eternal quest to recapture the vigour and prowess of youth would be resolved at a quaff.

It works. So does desiccated dragonfly, sparrow's tongue, boiled monkey brain, velvet from the horns of a sika deer, a mouthful of liquor in which is pickled the penis of a white horse, or a shred of shrivelled human afterbirth — all cures available in traditional medicine shops of Asia. They work because desperate men believe they will, and impotence is as much a matter of wilting confidence as it is of dying physical stamina. But does it work *scientifically*, in the way that bark from the quinine tree keeps malaria at bay, or alcohol inhibits pain? The answer is unequivocal. No. Exhaustive scientific analysis has failed to extract from rhinoceros horn a single beneficial compound — no aphrodisiac properties, no general restorative qualities, certainly no trace of an elixir of life. In fact, rhinoceros horn is made of the same stuff as hooves and claws. Men who worry about their performance in bed might as well chew their fingernails.

It would be a lot cheaper. Rhino horn currently sells for around US$18,000 a kilo. Last week, a kilo of gold was fetching $9,540. In 1970, you could buy a kilo of rhinoceros horn for $24. There is no mystery in the staggering escalation: the rhinos are dead, shot by poachers catering to a demand that is as fanatically unbending as it is totally useless. In the decade of the 1970s, 90% of African rhinoceroses were slaughtered, their carcasses left to rot on the savannah while their horns, hacked off at the bone, were shipped to Asia. Southeast Asian rhinoceroses have been pushed so close to the brink of extinction that nothing is likely to save them. None is in any world zoo or animal collection.

Five species of rhinoceros survived the Ice Ages. They lived in perfect ecological balance with primitive man and 4,500 other mammalian survivors until *Homo sapiens* stopped playing according to nature's rules and started shooting. Two species are African, one is Indian and the other two shared the forests of Southeast Asia. The range of the latter two was almost identical, though the animals themselves are quite dissimilar. Their habitat covered the forests of Burma, Thailand, Laos, Cambodia, Vietnam, Peninsular Malaysia, Singapore and Sumatra. Only the two-horned species (*Dicerorhinus sumatrensis*, also called the Sumatran) ever lived in Borneo, and only the one-horned beast (*Rhinoceros sondaicus*, or Javan) ever inhabited Java. Neither was present in the Philippines; both spilled over into the border regions of India and China. Today there are about 40 one-horned Southeast Asian rhinoceroses left and, at the most optimistic estimate, about 130 two-horned.

(Twenty-nine species of rhinoceros didn't survive the Ice Ages. They included some very interesting members of the family. There was one with spindly legs fleet enough of foot to outpace a pursuing

sabre-toothed tiger. Another had two massive horns side by side. A squat one, no bigger than a pig, waddled about on short stumpy legs, while the family champion, the size of a two-deck Hongkong metro-bus, was the largest land mammal that has ever evolved, making current title-holder, the African elephant, a pygmy by comparison. The woolly rhinoceros, which wrapped itself as snugly as a yak in a coat that kept out the biting glacial winds, is depicted in stone-age cave paintings in Europe and its well-preserved hairy carcass has been dug out of the Siberian permafrost.)

All the one-horned Southeast-Asian rhinos have been exterminated throughout their once-wide range with the single exception of the near-island of Ujung Kulon, connected by a narrow neck of land to the western extremity of Java. There, some three or four dozen, the last of their line, cling tenuously to survival. Five died early this year, victims not of poachers but of anthrax, the deadly bacterial scourge of all ruminant animals. In the 1960s, occasional reports of sighting in Burma and Thailand excited conservationists. For a time it was thought a relict population existed on the Laos-Thailand border. All these reports proved unfounded; it would now take such strong evidence as a verifiable footprint to raise again the optimism of wildlife experts, all of whom have abandoned hope. In 1932, a proud white hunter bagged the last one in Malaya. Probably, some survived in the mountains of Burma, Thailand and Indochina for a decade or two longer.

The more numerous two-horned species may die out even before its Javan cousin. The remaining animals are mostly irredeemably dispersed into non-viable groups of two, three or half a dozen. Though many species and sub-species of mammals have been wiped out by man, this would be the first complete genus. (The Javan rhinoceros belongs to the same genus as the Great Indian.)

Even if every living rhino in Southeast Asia were to be guaranteed the impossible — a lifetime of protection from horn hunters, timber-cutters, miners and other disturbers of the natural environment, the little groups could not survive. Inbreeding would cause mating to cease, and though the animals may live for 40 or 50 years in the wild — zoo specimens have gone on to a ripe old age of 75 — they would eventually die off without issue.

Thailand has three. The kingdom's director of Wildlife Preservation, Pairot Suwannakorn, told an *Asiaweek* general editor in Bangkok recently that footprints of a two-horned mother and her calf were found and verified after a long search in remote Pechaboon Province in 1979, and from this it was deduced that a breeding-age male must exist. Other reported sightings were investigated, but proved negative. Pairot, who has never seen one, does not discount the possibility of a few more still living in inaccessible terrain. In Burma, opinion is divided, writes Rangoon conservation expert J.A. Sayer in a letter to *Asiaweek* about whether some might still survive in that country, "but personally, I think it is highly unlikely." In Laos, none; Cambodia, Vietnam, China — all gone.

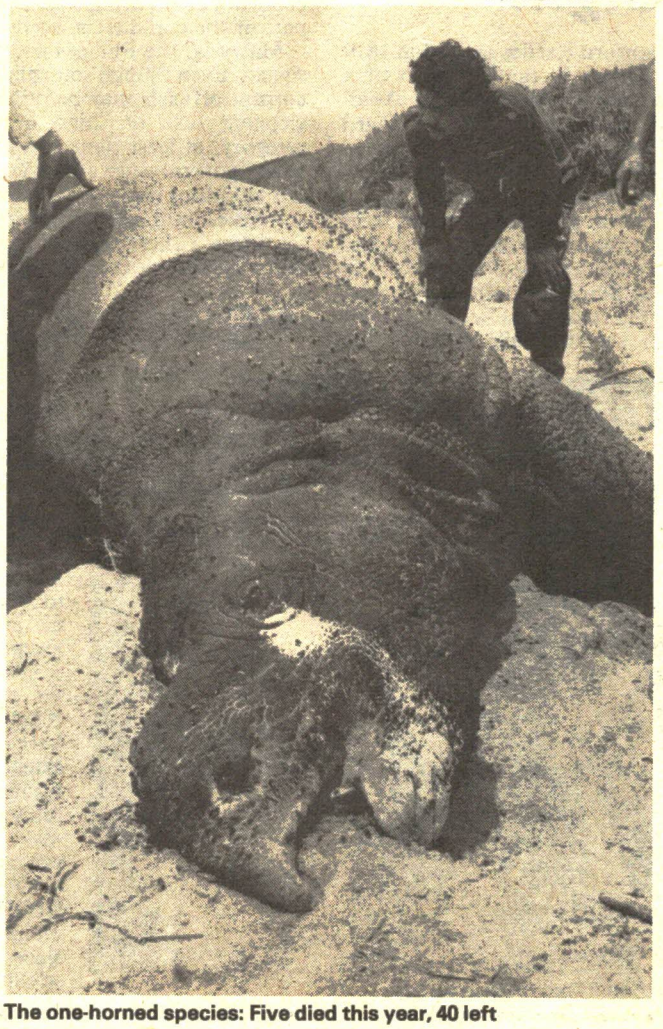
A survey in Sabah, conducted with meticulous care by personnel from the state's national parks administration in conjunction with the Forest Department and the World Wildlife Fund of Geneva, revealed that there were between seven and twelve in a two-horned rhino population in the Silabukan Forest Reserve in the extreme eastern Dent Peninsula which juts out to within 30 kms. of the Philippines Tawitawi group of islets. It is estimated that another 10 isolated beasts may be living there, but too far separated to contact each other for breeding. Unfortunately the whole of the area has been leased to the Sabah Foundation for logging. The forest will be stripped, the habitat destroyed and poachers given access. The rhinos are doomed. There are none in Sarawak and reports of sightings in the Indonesian part of the island are unsubstantiated and unconvincing.

The poachers have already struck at the tiny but hitherto safe Silabukan beasts. Six months ago, a corpse was found on the Sabah Foundation logging access road. Its head was missing entirely, and all twelve of its toenails had been chopped out. The animal had been snared with a nylon rope and dragged, most likely using an off-road vehicle, to the track where it was butchered. Two others were killed in the past five years, decimating the tiny stock of under a score. The Sabah Foundation doesn't want to hurt the rhinos but it has not the slightest intention of giving up the multi-million dollar, fabulously profitable logging operation, a commercial undertaking that will destroy Borneo's last rhinoceroses as surely as putting bullets through their brains.

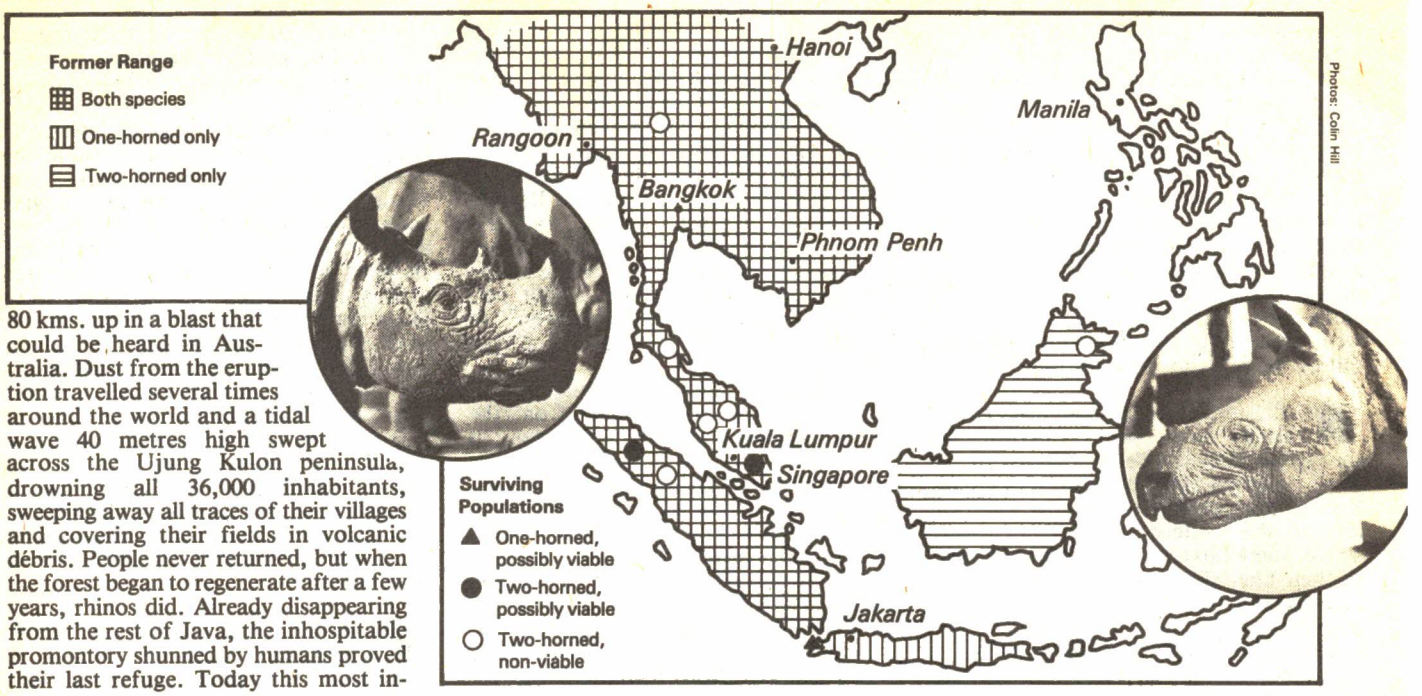
To survive, there must be a "viable population" and this means — stretching zoological optimism and credulity to the limit — ten or a dozen females of breeding age which have access to males when they come in heat. The sense of smell in rhinoceroses is as keen as their eyesight is poor; males know the unmistakable scent of an ovulating female. They gather, engage in the ritual fight that ensures that the one that mates is genetically the strongest, and then begin the protracted copulation that so captured the imagination of those philosophers with the flagging libido. But even a promise such as that borne on the winds has its limits. Isolation deters copulation. The parameters of viability demand that the population be not subdivided by logging-access roads, swaths of cut forest, plantations or mines. Several thousand square kilometres of virgin forest must be left untouched and human intrusion absolutely forbidden. These conditions exist or have the potential to be implemented in just three spots in Southeast Asia — at Ujung Kulon for the one-horned rhino, and, for its two-horned relative, the slopes of Mt. Leuser in the northern Sumatra province of Aceh, and in a stretch of forest straddling the border of the West Malaysian states of Johore and Pahang.

Next year is the centenary of an awesome event that saved the Javan rhinoceros. On August 27, 1883, at 10 o'clock in the morning, occurred the most cataclysmic explosion ever recorded — and that includes the testing of 100-megaton hydrogen bombs. The volcanic island of Krakatau in the Sundra Strait between Java and Sumatra blew its 6-km. by 2-km. top, flinging 21 cubic kilometres of rock, ash, lava and other earthly innards

Wachyu/World Wildlife Fund



The one-horned species: Five died this year, 40 left



80 kms. up in a blast that could be heard in Australia. Dust from the eruption travelled several times around the world and a tidal wave 40 metres high swept across the Ujung Kulon peninsula, drowning all 36,000 inhabitants, sweeping away all traces of their villages and covering their fields in volcanic débris. People never returned, but when the forest began to regenerate after a few years, rhinos did. Already disappearing from the rest of Java, the inhospitable promontory shunned by humans proved their last refuge. Today this most in-

The International Treaty

Why Won't Singapore Sign?

Not so long ago — before Stamford Raffles arrived in 1819 certainly, but that's but a blink in the evolution of a rhinoceros — Singapore was home to both Southeast Asian species. In cool glades where now rise the tall hotels of Orchard Road, the short-sighted, bad-tempered, two-horned rhino once snuffled a warning to a stealthy tiger; down by forgotten marshes that drained into today's concrete-channelled Singapore River, a one-horned mother brought her calf to drink in the evening, as a troop of gibbons howled in the trees above.

Both species of rhino seem doomed, too close to the brink, probably, to be saved. But Singapore remains unmoved, or so one would think from the rhinoceros horn displayed for sale in traditional medicine shops. While most of the world, belatedly stricken with remorse for past callous indifference to the fate of mammals faced with extinction, struggles to preserve the vulnerable ones, Singapore refuses to sign the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Trading in rhino horn in other countries could bring a stiff prison sentence; in Singapore, it's part of the commercial scene.

Malaysia, the Philippines, Thailand and Indonesia have all signed. Even though smuggling may be prevalent, even though corrupt officials may be bribed to turn an eye as a tiger skin, elephant tusk or rhino horn enters under some spurious category, at least these countries have the best of intentions. Other governments are aware of what must be done to curb this nefarious trade. Not so Singapore, it seems. Theoretically, someone could kill a rhinoceros in Burma (which hasn't signed the treaty either) and sell the horn in Singapore to a tourist from Korea (another non-signer).

"So you're going to try to get Singapore to sign," said Mohd. Khan bin Momin Khan, Malaysia's Chief Game Warden, his interest quickening at the prospect. "Well, that's something Malaysia would like to see, and you can quote me." Why won't the island-republic append its signature to a document that has now been signed by over 80 nations? *Asiaweek* tried repeatedly to get an explanation from the ministries of Culture and Trade. Never was a government more reluctant to comment. In fact, "there will be no comment" was the answer first given.

Getting information was, as one staffer put it, "like trying to extract a rhino's front teeth" (the animal doesn't have any). Persistence paid off to some extent. An official who insisted on not being named explained that Singapore is totally committed to free trade. To make exceptions would dilute that principle and Singapore's principles won't allow it to sign treaties like CITES. Besides, added the government man, there's no moral issue involved since Singapore doesn't have any wildlife left beyond a few species of

Michèle Dépraz

Rhino horn for sale in North Canal Road: Free trade is sacred

accessible part of Java is home to the last one-horned Southeast Asian rhinoceroses, and there, if properly managed, the population may survive.

For sheer majesty, nothing in the animal kingdom can outclass the Great Indian rhinoceros, an armour-plated, riveted living tank of a beast which accords right of way only to the elephant. One was shot for the amusement of the English queen during her visit to India in 1961. (Her husband, a redeemed big-game hunter, is now president of the World Wildlife Fund.) This third species of Asian rhino is also endangered, but a remorseful government of India now gives it protection that is among the most conscientious in the Third World. India is fortunate in having a prime minister who truly cares. Mrs. Indira Gandhi can take personal credit for much that has been done to conserve the tiger, the rhino and other of her country's endangered species.

It is difficult to conceive of the glamour once attached, where loathing and abhorrence prevail today, to the great white hunter who stalked his murderous way through grassland and forest only three decades ago. The redoubtable British killer, John A. Hunter, bragged that he had dispatched 1,600 rhinoceroses in all, 300 of them in a single year of senseless rapacity (1947). He reported that he made a brew of ground-up horn and drank it, "but I am sorry to say I did not feel any reaction whatsoever." The most extensive collection of rhinoceros horn is owned by King Carl XVI Gustaf of Sweden, while another is in the possession of the Pope. They inherited the trophies from predecessors, who collected them in days when tiger skins, ivory carvings and plumes of the bird of paradise were merely luxury items of trade. It is interesting to note that Europeans are also the only people ever to have relished the meat of the rhinoceros as a delicacy.

Yet ironically, if the rhinoceroses of Southeast Asia are to be saved it will be through the efforts of a few dedicated European conservationists. That's not to say that the governments, with the exception of urban Singapore, are not

Colin Hill

A gathering in London: *From left,* Sumatran, Javan, Great Indian, African black, white

common birds. Furthermore, the small, exclusively urban city-state prides itself on being an Asian entrepot. It imports and re-exports: if other countries deny entry to certain goods, that's their business.

Principles aside, Singapore is *not* indifferent to the plight of endangered species, according to another official, a spokesman for the Primary Production Department of the Ministry of National Development. He explained that the country does have its own Wild Animals & Birds Act. Official permission has to be obtained before a wildlife product can be imported. Presumably, however, this imposes no hardship for traders. While making the rounds of the medicine stores, *Asiaweek* ran into someone on a similar mission. Michèle Dépraz works at the World Wildlife Fund in Gland near Geneva. She had just spotted four shops selling rhinoceros horn in the old part of the city — "Chinatown" as the tourist brochures call it. She photographed the horn openly displayed in the windows.

Appraised of this, the National Development spokesman said the ministry was "unaware" of the trade and would "look into it." Display of products from endangered species is forbidden by Singapore's own law, carrying a penalty of up to S$1,000 (US$480 approx.), but neither the Ministry of National Development man nor the official from the Primary Production Department could recall the last time anyone was prosecuted, but "we definitely discourage the display of such things."

Not too definitely, however. The Singapore branch of the Malayan Nature Society was outraged recently to see ads placed in the *Straits Times* offering leopard and tiger skins, one of them "from Indonesia." In high dudgeon, the group approached the paper, which agreed not to accept such ads in the future. But a letter in a similarly outraged vein to the government from the band of nature lovers received a "non-committal" reply. Notes one member: "The government is not very vigilant about enforcing the act." Some individual conservationists fear being labelled trouble-makers.

If it weren't for the traders, the poachers of rhino horn or tiger skins wouldn't have a market. Trafficking in drugs in Singapore (even relatively innocuous ones) brings the full apparatus of state down upon the head of the dealer in swift and savage retribution. *That* kind of vigilance is never relaxed. But with many of the mammals and birds of Southeast Asia (a biogeographical region of which Singapore is inextricably part) in acute danger, the shameful trade is policed at best lackadaisically.

There's usually no way of knowing when a rhinoceros was killed. The ones displayed may well have died decades ago, and only now are being flushed out of the trophy cases by high prices. But while trade is permitted, or its prohibition not rigorously enforced, the killers will be encouraged. A great trading city like Singapore inevitably becomes a distribution centre, where dealers from other Asian countries come to haggle over horn, perhaps on the very spot where a young bull once tossed his majestic head in the dawn and peered contentedly at his own domain.

Michèle Dépraz

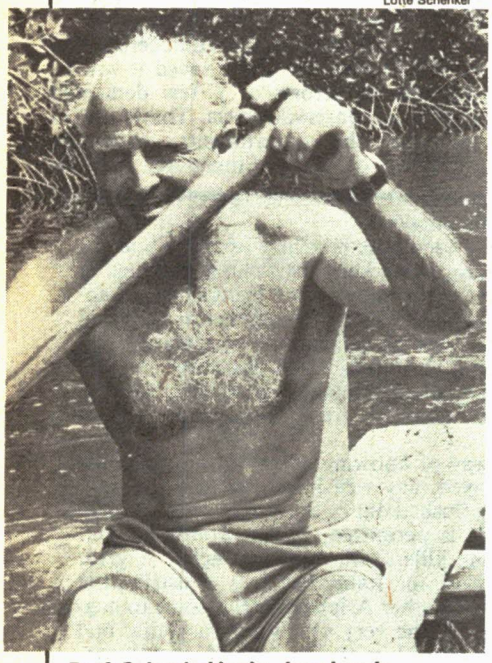
Medicine store: The animals are doomed, but who cares?

Profiles

The Saviour of Ujung Kulon

Is man's claim to inherit the earth more legitimate than the claims of other species? Most men would say yes: it was so ordained by evolution, or by a deity, or by the law of survival of the smartest in a struggle for possession of food and space. One man who would perhaps demur is Professor Rudolf Schenkel of the University of Basel, Switzerland. For fifteen years, he has grappled unceasingly with a formidable coalition of man, other animals, capricious climatic conditions and disease to save from extinction the Javan rhinoceros, a mammal that has been around a great deal longer than humankind.

Lotte Schenkel



Prof. Schenkel in the Java jungle

To be sure, he hasn't done it alone. He is the first to acknowledge the dedication of Indonesian government conservationists, as well as the assistance, largely financial, from governments and international conservation organisations. Yet without the efforts of Schenkel, now 67, and his wife Lotte, who have spent so much time tracking, observing and monitoring the beasts in the Ujung Kulon Reserve, it is arguable that the species would already have died out.

When Schenkel first went to the reserve in 1967, there were a scant two dozen Javan rhinos left in the world. Year after year, the Schenkels went back, always urging the government in Jakarta not to lose heart, always badgering local authorities to maintain the strictest vigilance against poachers, and constantly training forest wardens to manage the reserve. The dedication paid off. Numbers doubled to 50. In 1977, Rudolf Schenkel was awarded the World Wildlife Fund's gold medal for his work. When, a few months ago, tragedy struck in an epidemic of anthrax, a saddened Schenkel flew immediately to take charge of the investigation.

To be universally acknowledged as saviour of a species is a rare distinction. Schenkel as a youth had another singular honour: he was an amateur world lightweight boxing champion. He jokes that this equipped him to handle rhinoceroses. Indeed, twice he has had to fight off a charging rhino, one of which pitched him into a thorn bush where he was so entangled that a surgeon had to remove the deeply embedded thorns from his bald pate. On that occasion, he was trying for a close-up photograph with his Indonesian colleague Widodo. A bandaged eye (injured the day before) deprived him of stereoscopic vision, and while Widodo, the chief game warden of the reserve, took refuge in a tree, Schenkel "ran head-on into the thorns" until he "looked like a hedgehog." The last of the thorns had to be removed in Switzerland.

Schenkel was a well-known field zoologist and specialist in animal behaviour long before he saw his first Javan rhinoceros. Born in Basel, site of the famous zoo of which he is a director as well as being a professor at Basel University, he was the son of a world authority on spiders. As a small child he studied the behaviour of chickens, something that probably stood him in good stead when he later researched the courtship of pheasants, publishing two treatises on the subject. Earlier he had gained international acclaim for his study of the behaviour of the wolf pack in the Basel Zoo.

As well as becoming the "godfather" to the first gorilla born in capitivity, Schenkel was nursemaid to one of the only two Sumatran rhinos ever kept in captivity. In 1969, two animals were trapped near the Siak River in Sumatra. Unfortunately both were females. One went to the Copenhagen Zoo, where it lived happily for thirteen years more. The other, which went to Basel, was sickly, and despite ideal living conditions, a perfectly balanced diet and a constant dosage of antibiotics and other medications, the animal died of deterioration of the kidneys after two years.

The Schenkels' first encounter with rhinos was in East Africa, where they did field work on the black rhinoceros. On one occasion, while attempting to mark a beast for identification with a paint gun, Rudolf Schenkel narrowly escaped death by goring when an enraged bull charged. He managed to deflect the animal's wrath by lying absolutely still in the lee of a fallen tree, relying on the notoriously poor eyesight of the rhinoceros.

On the first excursion to Ujung Kulon, the Schenkels stayed eight months. Indonesia was then emerging from the convulsive inward collapse of society that occurred in 1965. There was little hope of getting the preservation of the Javan rhinos placed high on the government's list of priorities. The naturalist persevered, however, at a time when scarcely anyone, inside or outside Indonesia, was much interested. An early visitor was famed American aviator and conservationist Charles Lindbergh, who impulsively donated a $100 bill he had tucked away in the lining of his shorts for emergency.

Since then, the world has discovered the plight of endangered mammals and has rallied to the cause of saving them. Though there will never be enough money for all the projects the World Wildlife Fund would like to sponsor, the cash does flow in. Despite the recent disheartening setback, Schenkel can be resonably sure he has saved a species. He is perhaps the only man alive who can say that.

doing what they can. But their resources are few and their priorities more attuned to human needs, human afflictions, and even, in many cases, to threats to the survival of whole races of people (in taxonomic terms, sub-species).

The world authority on trade in rhinoceros products is Dr. Esmond Martin, a Britisher who lives in Nairobi. He wrote to *Asiaweek*: "Though I have spent many months studying the international trade in Southeast Asia, I have only seen horn, skin, dung, bone etc. I have never seen a live Sumatran or Javan rhino." Few scientists have, either Asians or naturalists from outside the region. Martin, who is publishing a book called *Run, Rhino, Run* in September, has followed the trade routes with the same dogged persistence as a rhino poacher stalking his prey.

In Thailand, *Asiaweek* was told, poachers may track their quarry patiently for three or four months before nabbing it. A single kill may net a villager the income he might normally expect to make in an entire lifetime. The Thai system of justice, with its overtones of Buddhist compassion, is reluctant to meter out severe punishment to ignorant mountain people who have no conception of the enormity of their crime in wiping out the last survivors of a species that is countless aeons older than their own. To the villager, a rhino is just another beast of the forest, much scarcer than it used to be, and unimaginably valuable. Yet despite this, Thai authorities say they are confident none has been killed in recent years. The reason: the slaughter could not be kept secret; hundreds of people would hear of it, and it could not escape the attention of forest rangers.

In Africa, the poachers are well-

organised, far from ignorant and utterly ruthless. Armed gangs hunt with modern equipment and have no scruples about removing obstacles in the way of their plunder. Rangers who try to prevent them have been murdered. Many of these pirates of the veld are white hunters; they are out for a fortune. Esmond Martin reports that apart from the demand for rhino horn as a medicine in Chinese cultures, there is an insatiable market in Yemen, where boys reaching sexual maturity aspire to acquiring a *jambia*, or dagger with a carved rhino-horn handle. Strangely, this aspiration, seemingly universal in Yemen, does not extend to other Arab countries.

The belief in the medicinal properties of rhinoceros horn is principally Chinese. Martin reports that its supposed effectiveness as an aphrodisiac is less significant among overseas Chinese in Southeast Asia than as an all-purpose elixir. In Singapore, he found, many of the customers were women over 40. Most buyers were quite knowledgeable about the product and would demand to see the horn before the powdery scrapings were taken from it. As only minuscule portions are sold for each dosage, the substance is, milligram for milligram, no more expensive than many pharmaceutical drugs. Chinese customers of the older generation usually consider traditional remedies to be at least as efficacious as modern drugs. As for aphrodisiacs, according to Martin, "tiger" penis and testicles are more popular (and much less easily identified as the genuine product).

In Bangkok, *Asiaweek* was told that a piece of rhino skin about the size of a postage stamp fetches 50 baht (US$2.50) in the countryside, where it is widely regarded as a general restorative by Thai and Lao peasants. Twenty years ago, it was common in the northern part of Thailand to find medicine sellers offering rhinoceros penis marinated in brandy as a cure for impotence. Also highly valued is boiled rhino stomach as a cure for abdominal pain, ground-up bone for arthritis and even dung for use as a laxative. So rare now is the animal that wealthy people are prepared to pay small fortunes for the very droppings of the hapless *grasu* (two-horned species) or the *raet* (one-horned).

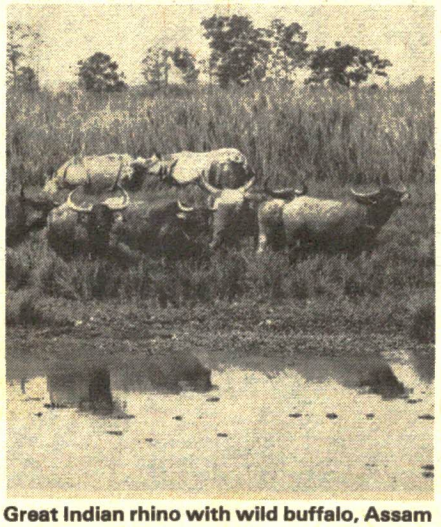
In the subcontinent, where perhaps as many as 1,000 of the Great Indian rhinoceros survive in the wild as well as a number in zoos, the urine is collected for obscure and of course totally useless medical applications. Those which die in zoos of natural causes are immediately cut into thousands of pieces. Even a single hair from a nostril can fetch a good price. Children in Nepal are sometimes made to drink rhino urine to safeguard against ear infections. A few years ago in Burma, a general was said to have taken a bath in rhinoceros blood, though which of the three species was murdered for this curious and infantile atrocity is not known.

The Great Indian rhinoceros is the best studied of the three Asian species. Its lifestyle is particularly interesting. It apparently has a well-developed network of highways, some "public," along which any rhino may proceed to streams or salt-licks, others "private thoroughfares" on which a particular animal will brook no trespassing by others of its species. Each has a private "bedroom" area to which it retires to sleep. Most peculiar of all are the "public toilets" or communal dung-heaps to which all rhinos in the vicinity proceed to deposit their droppings. When necessary this cumbersome-looking beast can move along at a particularly graceful gallop, reaching 40 kph.

Not nearly so much is known about the habits of the two Southeast Asian species. Though technically their habitat is identical, population density varies greatly. The one-horned species requires much more area per beast. The type of terrain and vegetation they favour also differs. The only place where all three species of Asian rhino may have overlapped is in the far north of Burma, and possibly some mountain fastnesses in southern China. The Chinese made some exquisite carvings from rhino horn in the Ming Dynasty. The May 1982 issue of a Hongkong magazine called *Home Journal* features in its "Collectors Page" a spread of photographs of horn carvings belonging to "renowned local collector, Dr. Ip Yee." The accompanying text notes with apparently straight-faced sincerity that both species were once present in China, but they "vanished" because the "northern climate proved too much" for them.

"A few years ago," says Mohd. Khan bin Momin Khan, Malaysia's Chief Game Warden, "I was against interfering with the rhinos in the wild. Now I have softened my view. It makes better sense to try to catch the animals that are left and get them together." Mohd. Khan points out that although there are three two-horned animals in Selangor, "there have been no young for a very long time." Rounding the rhinos up would be a very long, very expensive and above all hazardous operation. The Taman Negara National Park has between six and ten rhinos, but the population is "non-

E.P. Gee/World Wildlife Fund



Great Indian rhino with wild buffalo, Assam

Asiaweek News Service

Destroying natural habitat, Malaysia

viable" and the range "too small."

Once mustered, the question becomes: What should be done with them? The best of alternatives is the proposed Endau-Rompin National Park on the borders of Pahang and Johore states. Here is one of the two "possibly viable" populations left. (The other is in northern Sumatra.) There are certainly a dozen, possibly as many as 20 in the area. Johore has agreed, Pahang is "negotiating." All the other Malaysian rhinos (about five more in Kelantan, six in Perak) could perhaps be rounded up and transported to Endau-Rompin. The same could possibly be done with the isolated remnants in Sabah, even Thailand.

"An island — that's the best solution," asserts Jira Kriptanukul, Thai wildlife conservation officer. "If we could move them they might have a chance. We could protect them better." But, as he readily concedes, there's a lot more to it than that. The animals require a lot of space — thousands of hectares for each beast — and they are very fussy about climate, terrain and vegetation. If it's not exactly right, they won't breed.

The problem for the one-horned species is, ironically, just the opposite. At Ujung Kulon, the 40 or so animals form a viable breeding population, and the reserve, connected by a very narrow isthmus, is almost an island, very easily guarded. It encompasses 400 sq. kms., but as Rudolf Schenkel notes, "the ecosystem is apparently not in equilibrium." The epidemic of anthrax early this year illustrates the dangers of having a single population. Translocation of some of the rhinos is one possibility. "We should have at least a second nucleus population, and there are still suitable places in Sumatra."

The remaining alternative is captive breeding. As Mohd. Khan points out, immense strides have been made by Western zoologists in American and European zoos. There have also been impressive achievements in India and China. Artificial insemination may be the last chance for Asia's rhinos. They must be made to breed in captivity. For that, they would perhaps need an aphrodisiac. □