

## Comment



The main feature this month describes a very exciting place — one of the *most* exciting places in the world, in fact. The Gunung Leuser must represent one of the front rank of vital areas that conservationists must save, for all sorts of reasons.

It is also a place that appeals because it is still unexplored and unknown. Markus Borner told me when I was there last summer that there were — and are — no adequate maps of the Gunung Leuser region. The most recent was one prepared from American satellite photographs. But it turned out to be inaccurate. So little known was the area that he even discovered a great rift valley in the centre of the reserve, whose existence had been unsuspected.

Markus was involved specifically in the fate of the Sumatran rhino, but he was also concerned — through his project investigations — with the wildlife of Sumatra generally. Working side by side with him were two other Swiss zoologists; their project was to rehabilitate confiscated orang-utans. This makes a warm and fascinating story in itself, and we are planning to publish a feature on it in a future issue. In the meantime, I think readers will agree that it is important work, especially in the light of the great cruelty involved in capturing young orangs.

The interesting thing about the ownership of captive orangs, and also tigerskin rugs, by Indonesians themselves, is that both are regarded as status symbols. We — or I — tend to regard the lust for status symbols as being a Western fault, but it is certainly seen amongst the wealthier Indonesians. Orangs are often kept in conditions of such unbelievable cruelty, that the only possible point in keeping them must be the owner's ability to say 'I have an orang-utan'.

The Director of the Jakarta Zoo told me that he personally knew of about 150 tigerskins in the city and suburbs of Jakarta. Some of these could have been Javan tigers, no doubt, but that race is now reduced to barely ten animals, and most were probably Sumatran tigers. I saw a display of half a dozen skins in Jakarta's leading department store. I pretended I wanted to buy one and ship it to Singapore: I was quoted £750 for the skin plus £250 for shipping, most of which went on 'obtaining an export licence'. Of course, the latter would involve a heavy bribe to some official because it is illegal to export such skins.

Various people have complained to the Indonesian Government about this particular public display of illegal skins — but despite expressions of concern, the Government has so far not seen fit to do anything about it. Indonesia has much to be proud of in its conservation record, and I suggest it could well afford to put an end to this piece of blatant law-breaking.

NIGEL SITWELL

### FRONT COVER

European otter (*Lutra lutra*).

Photo by Hans Reinhard/Bruce Coleman

150 The Great Wildlife  
Photographic Adventure

153 Birdwatcher at Large

154 Longnecks and Humpbacks  
*Harry Frauca*

157 Into the Unknown  
*Markus Borner*

166 Search for India's Grey Wolf  
*S. P. Shahi*

170 The Rooftop Gull  
*Patricia Monaghan*

173 A Brighter Future for  
the Polar Bear?  
*Colin Wyatt*

176 The Latin Skin Trade  
*Felipe Benavides*

180 Cyprus Warbler  
*Michael Gore*

183 Zoo News

184 News Desk

186 WWF News

188 Book Reviews

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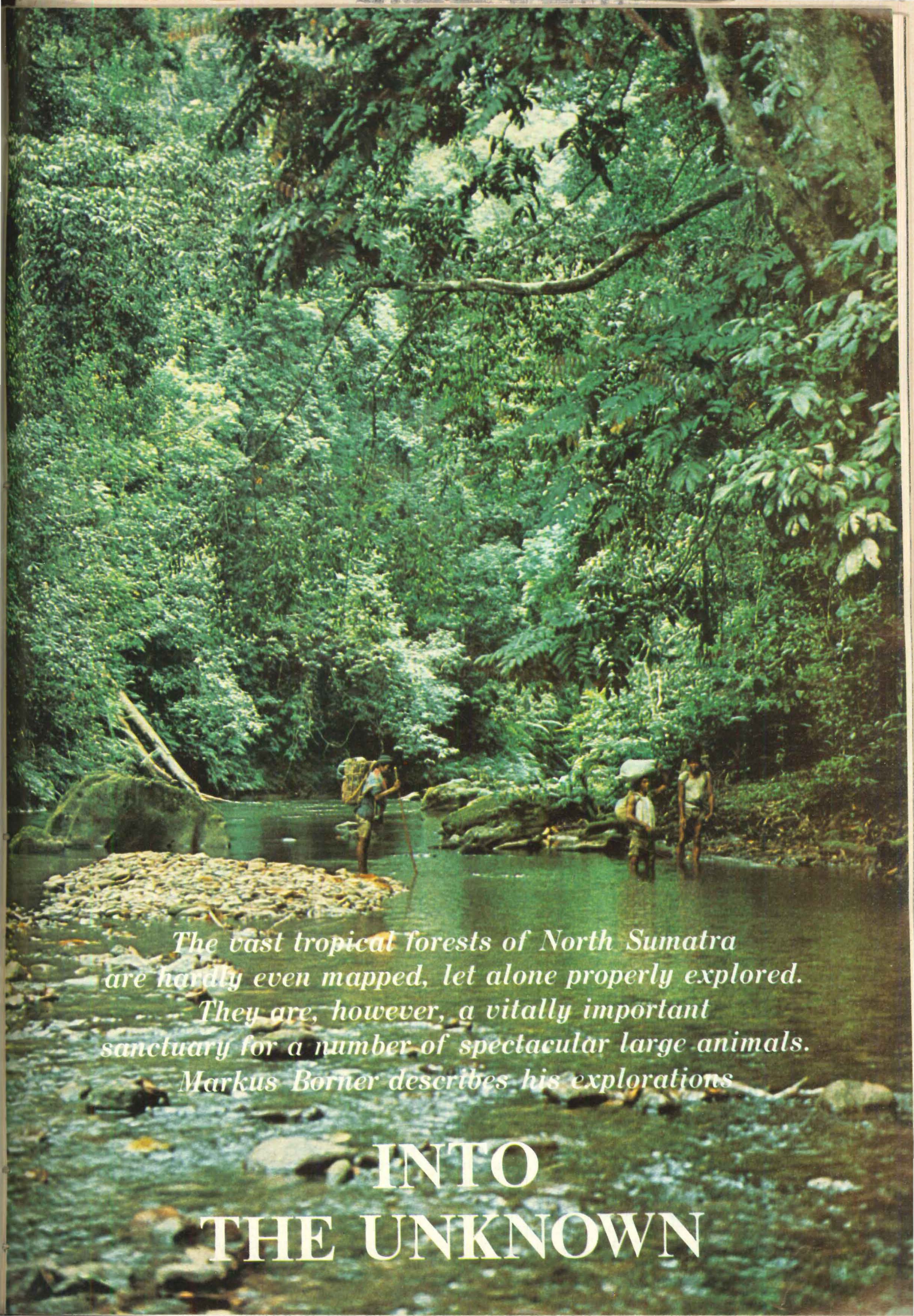
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A lush tropical forest scene with a river. In the foreground, a river flows over rocks. In the middle ground, several people are wading through the water. One person is carrying a large bundle on their back. The background is filled with dense green foliage and trees. The overall atmosphere is serene and natural.

*The vast tropical forests of North Sumatra  
are hardly even mapped, let alone properly explored.  
They are, however, a vitally important  
sanctuary for a number of spectacular large animals.  
Markus Borner describes his explorations*

# INTO THE UNKNOWN

*The author and his team were dropped in the heart of the Gunung Leuser Reserve by an oil company helicopter. Once in, the only way out was on foot — which often meant building makeshift bridges (below)*

to find the river that would lead us from wilderness to civilisation.

The purpose of our expedition was to look for the rare Sumatran rhinoceros, and on the third day we found tracks of this shy and extremely threatened forest dweller. Following the rhino's tracks and signs like a latter-day Sherlock Holmes, I tried to learn something of the ecology and behaviour of this the smallest of the five rhino species, whose last stronghold is the remote wilderness of the mountain forests of Sumatra.

But on the fifth day trouble started.

Due to heavy rain the river began to rise, and what had been a nice shallow river in the upper part turned out to be a narrow gorge full of waterfalls and rapids in the lower part. The deep water prevented us from walking in the river itself, so we were forced to cut our way through thick and thorny rattan palms on the steep slopes of the gorge.

Despite walking for ten hours a day, with two men always in front cutting a path with their big jungle knives, we sometimes managed only one kilometre (just over half a mile) a day. Since all the mountain ridges were at right angles to the river we could find no other route and were obliged to go through the gorge. The slopes were sometimes so steep that they were completely bare of vegetation and we had to use a rope to traverse the slippery rocks.

When it became impossible to proceed along one river bank we had to build a bridge to cross to the other side. We usually did this by cutting down a tree so that it spanned the strongest part of the current. But cutting down a tree with knives takes time — and two out of three of the trees we felled were immediately swept away by the raging flood!

By the eleventh day our supplies of rice and dried fish had run out, and we still had no idea how far we had to go to reach a populated area. Morale had sunk very low indeed. In the evening we found some banana stems and cooked the centre part so we should have something with which to fill our empty stomachs.

That night I slept badly. The plastic roof was by now perforated by rattan thorns, and rain dripped steadily onto my sleeping bag. All sense of adventure and excitement had vanished, leaving only my feeling of responsibility for the five

Our helicopter hovered above a swampy river bank while we threw out our belongings and then jumped out ourselves into the mud. Its task complete, the helicopter pulled up and away and the polyphonic sounds of virgin tropical rain forest replaced the rackety noise of the engine.

We were left standing on the bank of a river without a name, our connections with the outside world severed, alone in the green heart of one of the last of the world's unexplored places. We were in the 6,500-square-kilometre (2,500-square-mile) vastness of the Gunung Leuser Reserve in Sumatra. And suddenly it began to pour with rain.

My five Indonesian companions, who had been shaking with fear for the last hour, all began laughing and talking at the same time, happy to be alive and out of the roaring, hellish machine.

Despite the heavy rain we started to follow our unknown mountain river. It proved to be shallow and wide so the walking was easy and we were all in high spirits. But our euphoria lasted only till evening, when the time came to build our camp — a simple covering made of young trees and plastic sheeting. Most of our equipment, including the warm blankets, had been thoroughly soaked by the rain. And since we couldn't find any dry wood it took a full two hours to make a fire. But eventually we managed to cook our rice and dried fish and with a meal inside us our morale began to rise.

With characteristic tropical swiftness the daylight faded into dusk and the cicadas started their piercing evening concert. As we sat around the dying fire, Pawang Husin, the old rhino hunter and magician, started to tell stories of the jungle's spirits and ghosts.



ALL PHOTOS BY MARKUS BORNER

Tired from our first day in the forest we unrolled our sleeping mats of pandanus leaves and tried to find a comfortable spot under the plastic shelter. The roots and stones beneath us were no worry, though the forest was alive with undefinable noises; far away an owl was calling. Soon all of us were fast asleep.

In the moss forest at 2,000 metres (6,000 feet) above sea level the nights can be quite chilly — even though you are on the Equator. By early morning the cold started to creep into my bones. By four o'clock we were all awake, squatting round the small fire and awaiting the dawn.

In the few days that followed, everything went smoothly. Life in the forest became routine for all of us, the weather was fine, and with some luck we had managed

men, and concern about the hungry days and difficulties that still lay ahead. Waking in the middle of the night I observed Pawang Husin sitting in front of the fire burning incense and murmuring magical formulas. He too seemed to be worried.

Finally, on the fourteenth day, we reached the first human settlement.

After some large meals and a week of writing reports back in the village of Kotacane, all unhappy thoughts had vanished. More and more frequently I looked from my typewriter out of the window to the untouched, forest-covered mountains of the Gunung Leuser Reserve — and started to plan my next expedition.



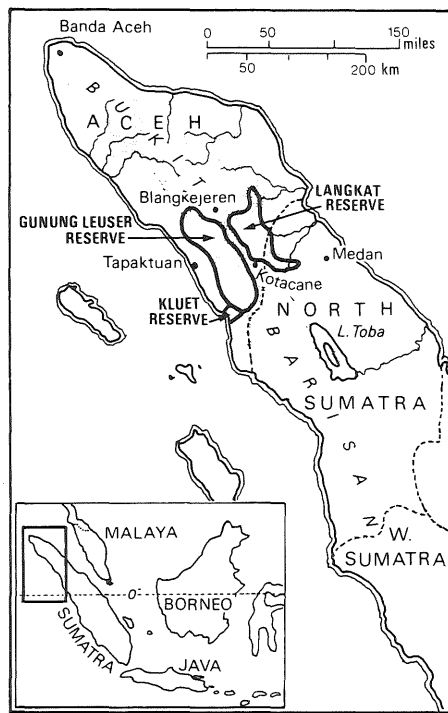
**T**he Gunung Leuser Reserve is the largest nature reserve in Indonesia and one of the largest untouched rain forest areas left in the Old World. It is located in the northern part of the island of Sumatra in the provinces of Aceh and North Sumatra. The Bukit Barisan, a mountain ridge stretching the length of Sumatra, gives the central part of the reserve its mostly mountainous character.

However, very many different habitats and vegetation types can be found in the Gunung Leuser group of reserves. In the Kluet part of the west coast primary fresh-water swamp forest harbours a fantastic variety of species. The climate is hot and humid and many animals — especially tree-living species — are found there. The calls of the siamangs and white-handed gibbons can be heard in the morning and their artistic leaps from one tree to another fill one with admiration.

The lowland and hill forests of the eastern Langkat part, with its huge trees, completely closed forest canopies, and networks of lianas, are the home of the largest of the forest animals, the Sumatran elephant. This region is also the main habitat of the orang-utan.

The terrain in the central parts of the reserve is steep and high and covered with sub-montane and damp moss forest. The trees are smaller, with beards of lichen on their branches, and the ground is covered with moss. It is here that the Sumatran rhinoceros is found, in what is possibly its last stronghold.

It was to study this extremely rare rhino that I was sent to Sumatra some two and a half years ago by the World Wildlife Fund. Little was known about the species' status and distribution and



virtually nothing about its ecology. The aim of my project was to locate the remaining few populations and work out plans for their conservation.

I soon learned that the rhinos had vanished from the forests close to populated areas, and I therefore had to search the hitherto unexplored central mountainous regions of the Gunung Leuser Reserve. It was there, in an area that can only be reached by a week-long walk through dense forest and difficult terrain — or by helicopter — that I found the tracks, wallows, trails, and saltlicks of this elusive animal.

Direct observation is nearly impossible. To start with, a population of maybe 30 animals is scattered over an area of more than 3,000 square kilometres. And secondly, the rhinos have a flight

*The going was so hard that the party often only managed half a mile a day.*

distance much greater than the approximately 20 metres a human observer can see in the forest.

So I had to study all kinds of tracks and signs to learn something about the way of life of the Sumatran rhino. I did, of course, try very hard to get at least a glimpse of one. Once I sat on a small platform up a tree for more than three weeks, eating only cold rice and dried fish. Continually, day and night, either Pawang Husin or I kept watch on a rhino trail and a saltlick. The nights were cold and the daily rains soaked our small shelter. But we saw nothing besides birds, squirrels, and an occasional barking deer. A second attempt at a different place produced the same discouraging results.

But I *did* see one rhino in my two years or so — and that was purely by chance. We had built our field camp on a rhino trail. Pawang Husin (the magician) had told me in the morning that I would see a rhino the same day. As he had never said this before I was quite surprised and rather excited. During the day we came across fresh rhino tracks but saw nothing of the animal itself. A trifle disappointed, we were eating our evening meal when suddenly there was a noise of breaking wood. Instantly on the alert, we dropped our rice and rushed outside. There was the rhino! With its head close to the ground it dashed off through the undergrowth like a small but compact tractor. As it was getting dark fast by now it was not possible to give chase. But when I smoked my pipe by the fire that night I was very happy that I had seen, albeit fleetingly, at least one of these strange rhinos, whose tracks I had been



*Rolling hills (above) clothed in unspoiled tropical rain forest contrast strongly with the destruction wrought by man (below)*



**How do you find thirty rhinos in a thousand square miles of unmapped rain forest?**

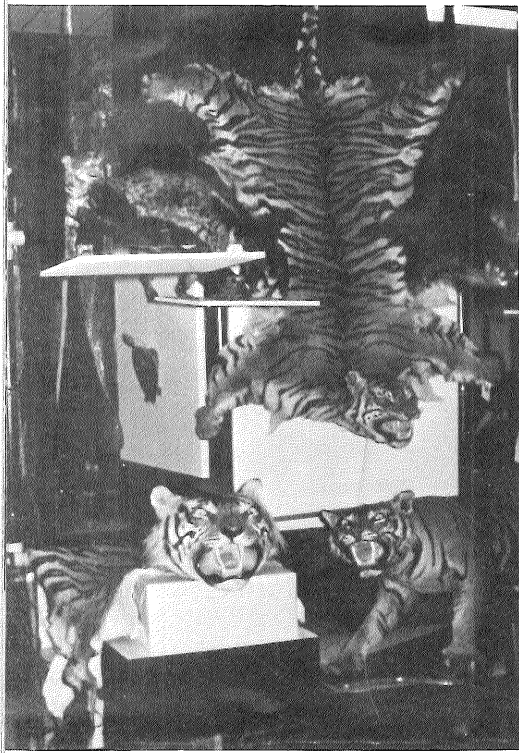


*In his expeditions into the Gunung Leuser, author Markus Borner spends most nights under a simple covering of plastic sheeting. Below, he plans the next day's search for rare wildlife with Pawang Husin (left), the ex-rhino hunter who became his friend and guide*



*One of Borner's main objectives was to study the rare and elusive Sumatran rhino. The picture opposite indicates some of the difficulties he faced as he wades along a muddy rhino track through the forest. Below: Examining evidence beside a rhino wallow*





NIGEL SITWELL

*Sad and blatant display of Sumatran tiger skins in Sarinah, the famous Indonesian department store. It is illegal to hunt tigers, or to trade in their skins, but the editor of Wildlife was offered one for £1,000, including £250 to cover the cost of 'arranging' its export*

following for such a long time.

For those who have never been in a tropical rain forest, I should explain that it is extremely seldom that one sights a large mammal: I once walked for two weeks without seeing a single one. Nevertheless, some of my most thrilling moments were with elephants.

I saw my first elephant in the southern part of the reserve at the Serakut River. We happened to find fresh tracks in the bed of the river. The elephants had obviously fed extensively, as all the vegetation fringing the river had been broken down as if by a thunderstorm. Most of the undergrowth was trampled, but we could tell that the elephants had carefully selected only the most tender leaves for their meal. All over the place were huge dung heaps, which were still warm.

My two companions were alarmed and pleaded with me to give up the search and return to camp. Even Pawang Husin started to tell a horrible story about how his grandfather was killed by an elephant. But I was determined . . . and then round a bend in the river, we came upon a male elephant feeding some 20 metres in front of us. We stood stock still. At such close range the elephant seemed enormous. I started to take photographs — but when the animal turned in our direction I

suddenly had a strange feeling in my stomach and started to look for a climbable tree. When I looked at my companions the strange feeling grew stronger: hidden behind a rock, they were staring at the approaching elephant with faces grey with fear. Without a word we all moved back round the bend in the river and started to run like mad.

During the months that followed I was lucky enough to see elephants several times, in central Sumatra as well as in the Langkat part of the Gunung Leuser Reserve, where I saw a herd of more than eleven animals. Such events were always very exciting and rewarding and made me forget the leeches, the rattan thorns, the uncomfortable nights, and the other difficulties of life in the rain forest.

Unfortunately, elephants are a problem. Mostly animals of the forest fringe, their preferred habitat is the lowlands near rivers, which are also best for shifting cultivation, timber cutting, and human settlement. Furthermore, elephants tend to keep to their traditional migration routes, even if new villages and freshly cultivated fields appear along the way. Constant friction between the elephants and the ever-growing human population is inevitable. But in the province of North Sumatra considerable efforts are made to save the last animals which are found on the edge of the Langkat portion.

By contrast, the tiny mouse deer is the smallest ruminant in the world with a body weight of about 2 kilos (4½ pounds). But it is no less exciting than an elephant. One day I was travelling slowly down the Alas River in a dugout when the head of a mouse deer suddenly emerged from the water. The helmsman grabbed it instinctively and the poor animal cried in terror.

I had seen the mouse deer before, but only at night in my headlights, so I was happy to just sit admiring the elegant animal. Its shape is much the same as the larger deer, but everything is on such a tiny scale that I was frightened I might break its fragile legs as I handled it. There are two mouse deer species and they are in a family of their own, the Tragulidae, rather than the true deer (the Cervidae). The males have no antlers but the enlarged, tusk-like canine teeth in their upper jaw give them a fierce appearance. They seem to live close to rivers and are excellent swimmers and divers.

Having convinced my men that I would not allow them to eat the animal, nor to break out its

canines, nor to tie its feet together before releasing it, I watched happily as it swam away through the sun-dappled waters. My men must have thought me crazy to let go such a delicious meal.

Two species of true deer are found in Sumatra, the rusa and the barking deer. The rusa is about the size of a European red deer and the male has very strong antlers with not more than three tines. The barking deer is a much smaller animal, about the size of a roe deer, and the male has short, two-tined antlers and tusk-like canines in the upper jaw similar to the mouse deer.

The rarest of the artiodactyls, however, is the serow. This dark, small-horned mountain goat can be found on the steep slopes and rocky riverbeds of the Gunung Leuser Reserve, and I once watched a pair at over 2,000 metres. With a sharp warning whistle that could be heard over a long distance they climbed an incredibly steep, eroded slope with such agility that I just looked at them without even thinking of getting out my camera.

As I have already suggested, taking photographs of all these rare and shy forest creatures can be most frustrating. Because of the almost daily rain and because we walk mostly in the rivers I always carry my equipment in a waterproof aluminium suitcase. In the early days I would invariably start to struggle to get my camera ready, as soon as I spotted an animal. As a result, the animal was gone by the time I had my camera out — and I had in the meantime missed a beautiful observation! Now I force myself to have a good look first, and only reach calmly for my camera if the animal stays for a while. A further problem is the extremely poor light in the forest interior.

Most secretive of all the hidden forest animals are the carnivores. A palm civet may be observed, when it's on a hunting expedition at dawn. The tracks or claw marks of the sun bear can be seen quite often, and indicate that it can climb the tallest tree regardless of slippery bark or scarcity of branches. Twice bears broke into my food depots, causing a frightful mess, and once a sun bear nearly ran into my shelter at night; it fortunately decided to make a detour when my men began to shout.

I have found evidence of at least four different cats in the Gunung Leuser. The smallest, and probably the most common, is the leopard cat. Unfortunately, villagers frequently collect the cubs as they cry for their mother, hidden in the bushes. Some are

sold to animal dealers, others are kept in the village, but most of them die very soon as they are fed on rice alone. Once a dealer offered me a leopard cat cub. He placed the tiny creature on the bonnet of my Toyota where it lived up to its ferocious reputation by showing its tiny teeth and slapping its paws against the wind-screen. Most puzzling and beautiful were its light blue eyes.

I was often offered wild animals as pets, from small squirrels to tiger cubs. Much as I pitied these poor ill-fed creatures, however, and much as I would have liked to buy them, so that I could

*Toyota Landcruiser supplied by the World Wildlife Fund to aid search for the last rhino populations. Advertisement for Japanese bulldozers reads in part: 'Wherever roads must be built... Komatsu is there. Where you used to find an uninhabited jungle, you will find a town when Komatsu gets through.'*



release them in the forest to save them from an otherwise certain death, I never allowed sentiment to get the better of me. Because each time a dealer sells an animal he is encouraged to go out and catch another.

Of the other Felidae, such as the rare golden cat, the beautifully spotted clouded leopard, and the Sumatran tiger, only an occasional track hints at their presence. Nevertheless, it is rather exciting to find, as I have sometimes done, fresh tiger pug marks near my forest camp! I always made sure I had my jungle knife beside my sleeping mat, though I never had any problems with 'dangerous' animals during the long time I spent in the forest.

A further contrast is provided by the primates, which (unlike the secretive cats) can be seen quite easily. Large groups of long-tailed macaques can be watched as they

play alongside rivers; they swim amazingly well, and in emergencies I have seen them diving and hiding underwater. The banded leaf monkeys, with their funny triangular faces, perform remarkable free-fall jumps of up to 20 metres from one treetop to another. The pig-tailed macaque (which looks somewhat like a baboon) will rush to the ground when disturbed; they are often caught, as they are in Malaysia, and trained to pick coconuts from the highest palm trees.

The white-handed gibbons and the siamangs glide through the forest with smooth elegant movements, and their musical duets, with which they mark their territory acoustically, can be heard all over the primary forest up to about 2,000 metres.

Rarest of all the primates is the big red orang-utan, the 'man of the woods', which leads a lazy life in the primary lowland forests

only a few thousand animals, restricted to Borneo and North Sumatra, this species is certainly threatened with extinction.

Besides hunting, the destruction of habitat is the greatest threat to the forest wildlife. Uncontrolled shifting cultivation is destroying much of the remaining primary forest. Large areas are cleared and the trees are burnt on the spot. When all the plant cover has gone, erosion starts quickly. After a few years the soil is washed away, the place is abandoned, and a new piece of forest is cleared.

An ever-growing demand for wood from the developed nations, especially Japan, Europe, and the United States, triggered off an enormous timber boom in South-East Asia in the past few years. In 1973, some 15.5 million cubic metres (400 million cubic feet) of timber were exported from Indonesia, and mechanised timber extraction operations are levelling the forests with alarming speed.

For technical reasons the timber companies still concentrate on lowland areas, thus destroying the habitat of many lowland animals — such as the orang-utan. Most of the lowland forest in Sumatra is already gone or already scheduled for exploitation. If wood prices continue to rise, even the most inaccessible mountain forests might become profitable for logging. Oil companies, too, are building large networks of new roads in the forests, opening up the remotest wilderness to timber companies and shifting cultivators.

This opening of the country is, from one point of view, making an important contribution to the economy. But from another point of view — the conservationist's — it will mean the disappearance of several animal species that are restricted to this habitat; it will also bring only short-term financial gains.

Will it be possible to save this magnificent forest and its magnificent wildlife?

With aid from the World Wildlife Fund the Indonesian authorities have made a promising start to secure the large Gunung Leuser Reserve. However, although the Indonesian Government is also establishing new nature reserves all across the country, it has to consider the needs of the rapidly expanding human population.

It must therefore be the responsibility of the developed countries to provide most of the financial support needed to protect these reserves effectively for the next few decades — until Indonesia herself is able to take over. ●



where fruit trees are abundant. There is a story in Sumatra that orang-utans can talk as we do — but are too clever to do so, knowing that if they did they would be put to work in the rice fields.

The orang is under considerable hunting pressure, mainly because there is still a good market for its young. Once an orang-utan has been located it is not difficult to capture its baby. Often the parent orang does not take off in flight but tries to impress and frighten the hunters by shaking and throwing down branches. It is thus very easy for the hunter to aim and shoot. The dying orang-utan mother then falls to the ground, and the clinging youngster is taken from her. Some of these babies are hurt when falling from the trees with their mothers, and most of them die later because they fail to get appropriate care.

With a world population of

*More photographs overleaf*





*Catching sight of the diminutive mouse deer (above left), the smallest ruminant in the world, is no less exciting — though possibly less frightening — than suddenly coming across a herd of elephants, the giants of the jungle. The primates are much*



# Will it be possible to save this magnificent forest and its magnificent wildlife?



*more in evidence than other mammals in the Gunung Leuser, and range from the macaques (above centre) to the endangered orang-utan (above). The rarest ungulate, apart from the Sumatran rhino, is the agile serow (below)*

