

Zeitschrift: Acta Tropica
Herausgeber: Schweizerisches Tropeninstitut (Basel)
Band: 18 (1961)
Heft: 2

Artikel: A contribution to the preservation of the Sumatran Rhinoceros
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DOI: <https://doi.org/10.5169/seals-310945>

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A Contribution to the Preservation of the Sumatran Rhinoceros.

By HAKON SKAFTE.

The hairy Sumatran Rhinoceros (*Dicerorhinus sumatrensis*), the smallest of the known species of rhinoceroses, is on the verge of extinction—so it is said. As the majority of these animals live in the dense tropical rain forest of Sumatra the *sumatrensis* is relatively inaccessible to a proper ecological study. It is therefore impossible to say whether there are two hundred or two thousand left. I would rather use the last figure if I was pressed for an opinion.

But one thing is certain, the number of *sumatrensis* is gradually diminishing due to widespread poaching of this otherwise totally protected animal. The Chinese harbour an old superstition that a certain powder, made of the skin and horn of the rhino, has powerful aphrodisiac properties. Thanks to this superstition the small horny excrescence which adorns the rhino is one of the rarest and most valuable commercial articles in Singapore. A single horn, so I was told, will fetch the price of a brand-new American car.

Together with professor Kusnoto, the former leader of Indonesia's preservation of natural amenities and of many scientific institutions in Bogor, the Danish zoologist Dr. Anton Fr. Bruun and the Danish taxidermist at the Zoological Museum in Bogor, Arne Dyhrberg, devised a plan to catch a few pairs of the rare animals and to try to make them breed in captivity in order to preserve the *sumatrensis*—at least in special national and zoological parks.

The successful breeding in 1956 and 1958 of the rare Indian rhino at the Basel Zoo (Switzerland) showed the important part Zoological Gardens can play in preserving such animals from extinction. Encouraged by this success the Basel Zoo, in cooperation with PETER RYHINER, organized an expedition to Sumatra for the purpose of capturing Sumatran rhinos. As a result a young female, "Betina", has been brought to Europe.

Cooperation between the Zoological Gardens in Copenhagen and the Zoo in Basel (Switzerland) was successfully established; with further financial support from a Scandinavian publishing house the future of an expedition was provided for and I went to Central Sumatra in order to get the programme activated.

Our hunting-district covered about 30,000 square miles. It was traversed by two big rivers—Siak and Kampar—several tributary rivers, and a poor jungle-road along a pipe-line. It was covered with primeval tropical rain forest. Low hills and swamps alternated.

Thanks to intimate cooperation with the Indonesian military and civil authorities—and the truly remarkable obligingness and helpfulness of the Caltex Pacific Oil Company we finally managed to set out on what I believe is one of the most exciting big-game safaris imaginable ever made.

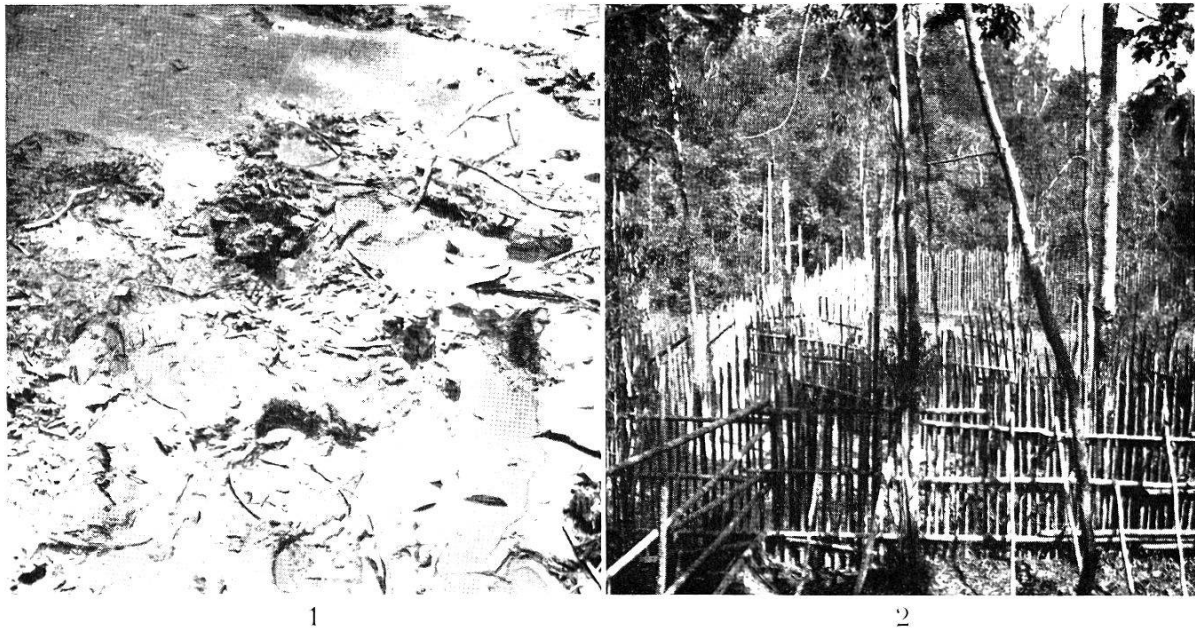
The Sumatran rhinoceros is a swamp-and-hill animal and has its haunt in one of the oldest and most inaccessible tropical jungles in the world. It is an ill-tempered animal—and quick as lightning. I have seen it move in and out between trees, roots and other obstacles in the tangled undergrowth with surprising grace and agility. And I have seen it stop, turn around in the fraction of a second, and charge ahead with the speed of an express-train. When it is captured, however, it calms down surprisingly quickly and seems to be comfortable in human company. In spite of its bad reputation as a ferocious beast the *sumatrensis* is probably one of the most harmless wild animals in existence.

Our task was to study the habits of these animals, discover their haunts, catch them alive, and bring them out of the jungle to the zoological gardens of Basel, Bogor and Copenhagen. We were only armed with hunting-knives, because the whole area in which the animals travelled was a kind of no-man's land between the fighting rebels and the Indonesian government-troops, and the possession of firearms might easily have got us into trouble with either party.

We were successful on one of our very first incursions. No sooner had we passed a thorny bamboo-copse in a hilly country and were ascending a slope with tall ferns, when our local guide abruptly came to a halt and exclaimed: "Badak!"—the Malayan word for rhinoceros.

In front of us a trail, partly covered by withered leaves, wound its way through the ferns. This trail was made by rhinos and belonged to a whole system of similar trails which we were to map out during the following weeks. A newly broken branch and a spatter of wet mud on a tree trunk indicated that rhinos had passed here quite recently.

We followed the trail and came to a small clearing where the sun merely "trickled" through the thick foliage. The grass was trampled down, bushes and broken and splintered branches strewn



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Fig. 1. Rhino footprint in the mud.
Fig. 2. Rhino trap in the Sumatran forest.

everywhere, as if giants had been having a gay time. Big, round tracks in the soft mud held clear impressions of the rhinos' hoofs.

We hurried down the slope towards a boggy swamp. Here the tracks showed even clearer than before.

For the next two hours we shambled in mud and mire, systematically reconnoitering the swamp and the surrounding hills. We found that several rhino-trails led down to the swamp which evidently was their favourite bathing-place.

We measured and surveyed and made some quick calculations. This seemed to be an ideal spot for a trap. But how were we going to make it? The native poachers used a sling of steelwire which automatically laced the snout of the rhino just above its horn. But at the same time this wire cut deeply into its skin, making the animal completely furious. It charged anything within range, until it finally dropped from sheer exhaustion, half-choked and partly mutilated. To the poachers this mutilation was of no importance. They merely killed the animal to get the horn. We naturally rejected this barbaric method at once.

To dig pits across all the trails leading down to the swamp was another solution, but the difficulty in getting the heavy animal out—and the risk that it might break a leg in falling in—likewise made us abandon that plan.

After some discussion between ourselves and our local assistants, we finally decided to build a solid, well camouflaged palisade-fence around the whole bathing-place. Where the fence was to cross the trails, we would make trap-doors which automatically fell



Fig. 3. Rhino near bathing place.

down when the animal passed through the opening. This kind of trap had previously been used by RYHNER in trapping successfully tapirs and the rhino "Betina".

We drew a rough sketch of the whole area and decided to build an enclosure of about 30×30 meters with six trap-doors—one for each of the most frequented rhino-trails.

There were quite a lot of details to be taken into consideration. Nails and tools had to be transported by river from the nearest town, Pakanbaru, and afterwards carried to the camp—approximately one day's journey through the jungle. We would need several bags of salt to lure the animals to the trap, and more than 1,000 young saplings were required to make the palisade. In order to avoid frightening the animals with the noise, these saplings had to be cut in another area and from there transported to the building-place.

All this required a large staff of native workers—and a very few natives cared to leave their villages even for a temporary stay in the

jungle. And the building of a trap like the one we had in mind would take at least two to three weeks. Tempted by good wages, extra rice, coffee, and tobacco rations and a cash-award for all live rhinoceroses brought out to the Siak river we finally managed to get a first class staff of local assistants, and the traps were very quickly built.

The following weeks were spent in anxious waiting for animals to walk into the trap. In the day-time we made trips through the jungle to map out the district and gain more knowledge of the habits of the rhino. On these daily trips we rarely came across animals at all—and then mostly birds, reptiles, monkeys and an occasional deer or wild-boar. Sometimes we heard the snorting of elephants from the thicket, and one morning we met two Malayan bears, jogging along quite unsuspectingly.

As far as we could ascertain from the network of rhino-trails, the *sumatrensis* are great travellers. They seem to feed and travel all night and in the very early hours of the morning. We never saw any rhinos during the day.

At certain times we found plenty of fresh rhino tracks in our hunting-district—at other times the animals seemed to have vanished completely. The local observers—mostly the native hunters—believed that the rhinos move periodically, although they had no specific data about the season. According to our observations rain seemed to influence the movements of the rhinos. When violent torrents flooded the lowlands, the rhinos stayed away from the swamps and remained in the hills where they had water enough for their daily bath. But the drier the forest was, the more traffic moved towards the bathing-grounds in the swamps—and towards our traps. With hot and dry weather the horse-flies also seemed to become more troublesome to the rhinos and the necessity of coming to the wallows to get a protecting cover of mud increased.

We also learned that the *sumatrensis* seems to be an unsociable animal. Two adults are never seen together except for the rare moments of mating or when a cow is accompanied by a calf. Most of the time *sumatrensis* is a lone wanderer.

Within half an hour's walk from the camp, and near the little river Tenajan, we found two more places to put up traps and decided to take advantage of these possibilities.

At night we took turns keeping guard at the finished traps. Night after night we sat in the specially built watch-huts in the trees, straining our ears to detect even the faintest noise. We always went out in twos so that one could keep guard if an animal walked into the trap, while the other under cover of darkness hurried back to rouse the camp.



Fig. 4. Rhino bath.

It was a starry night when we caught our first animal. We sat in the hut, peering down at the trap, the contours of which rose faintly out of the darkness. Suddenly we heard a shrill, whimpering sound—something between the squeak of a little pig and the whine of a big dog. It was followed by a splash in the mud and the snapping of twigs. We held our breaths. At last a rhino was on its way down to the bathing-ground and the trap.

A few thrilling minutes went by. The whimpering sound came nearer and nearer. Now it sounded very near the trap. Then we heard the smack of a trap-door, snapping shut.

We hurried towards the trap. Fortunately we were able to follow a narrow path we had trodden ourselves. When we reached the palisade we heard a thundering gallop from the other side and saw a big, grey shadow rush towards us with a furious snort. With lowered head the rhino rammed its horn into the palisade right in front of us. The fence creaked, and one of the poles splintered—but it held. The rhino veered off and continued in a fast gallop along the fence. Mud and dirt literally shot out between



Fig. 5. "Subur" in the trap.

the poles and hit our faces with a smack. Finally it calmed down and retreated to a slough within the fence.

The coming dawn also meant that the mud-bath was over as the rhino now thought it about time to return to the thicket to get some breakfast. Splashing and snorting it stumbled upon dry ground. It was a full-grown animal—a female. Our native assistants immediately christened her Subur—the Malayan word for fertility.

Subur stood quiet for a moment as if taking a bearing on her further course; then she slowly trotted over to the trap-door which had closed behind her the night before. Not being able to get out, she snivelled at the ground for a moment. Then she made a reconnaissance along the fence, wedging her horn between the poles now and then to see if they gave way. We hurried up to the fence with new poles in case Subur tried to break out. No sooner had Subur scented us, when she rose on her hindlegs and pressed the bulk of her body against the fence as if trying to overturn it. The fence sagged, but held—thanks to four or five supporting pillars which immediately were rammed down to strengthen it.



Fig. 6. One of the three captured females.

During our wanderings in the jungle we had learned which of the bushes the rhino preferred, and a large store of fresh leaves had been gathered early that morning. We placed a good supply of fresh leaves in one corner of the trap and retired. Soon after the rhino slowly advanced towards the pile and began breakfast.

Subur gradually calmed down and even seemed to feel quite comfortable inside the trap. But then, of course, she had everything a rhino could wish for—and more. She had her own private bath, a piece of dry land with bushes and grass and several big trees, and she had all her meals served free—and good meals reinforced with cooked rice-balls with multi-vitamins.

To our great amazement we discovered that she ate all day and night—merely interrupted by an occasional bath and a little nap. And before long her life went on as by a time-table. She made her own path inside the trap and quickly adapted herself to the limited space. Three of the four corners were used respectively as feeding-place (she always had her green leaves served at the same spot), bathing-ground (the slough), and dung-hill. The fourth corner was

used as an observation-post, whenever love of adventure made her leave the beaten track.

Meanwhile the work of our expedition went on as usual. New traps were planned in other districts south of the Kampar river, and the trapping activity increased. The first part of the expedition lasted for nearly half a year, during which period we caught three female *sumatrensis* and a beautiful young male—this latter unfortunately escaped.

One of these three females died by accident. The two others are now in Bogor, Indonesia and Copenhagen, Denmark.

The second part of the expedition is now under preparation, and it is hoped that this time three male *sumatrensis* will be caught in order to complete the initial part of the programme—to secure breeding pairs for respectively Basel Zoo, the new Taman Magasatwa Nasional at Bogor, and Copenhagen Zoo.

It is hoped that this expedition will be the first step in a bigger programme to save the Sumatran rhinoceros from complete extinction.

Zusammenfassung.

Durch Zusammenarbeit der Zoologischen Gärten von Kopenhagen und Basel und des Zoologischen Museums von Bogor wurde eine Expedition nach Zentral-Sumatra ermöglicht, mit dem Auftrag, einige Sumatranische Nashörner (*Dicerrhinus sumatrensis*) lebend zu fangen. Man hofft, durch Züchten in zoologischen Gärten diese Gattung vor dem Aussterben retten zu können, denn leider nimmt infolge verbotener Jagd die Zahl der Tiere ständig ab. Alter chinesischer Aberglaube schreibt nämlich einem aus dem Horn und der Haut gewonnenen Pulver eine starke aphrodisiakische Wirkung zu. Der Autor beschreibt, wie es unter schwierigen Bedingungen durch Errichten großer Fallen an den von diesen Tieren bevorzugten Badeplätzen gelang, ein männliches und drei weibliche Nashörner zu fangen. Zwei der Weibchen konnten wohlbehalten nach Bogor und Kopenhagen gebracht werden, während das dritte einem Unfall zum Opfer fiel und das Männchen zu entkommen vermochte. Eine zweite Expedition, welche für Basel, Bogor und Kopenhagen Zuchtpaare sichern soll, wird vorbereitet.

Résumé.

Grâce à une étroite collaboration entre les Jardins Zoologiques de Copenhague et de Bâle et le Musée zoologique de Bogor, on a pu entreprendre une expédition au centre de l'île de Sumatra, ayant pour but la capture de quelques-uns des rares rhinocéros indigènes (*Dicerrhinus sumatrensis*). Par l'élevage en jardins zoologiques, on espère pouvoir sauver cette espèce menacée de disparition. Le nombre de ces animaux diminue en effet sensiblement, bien que la chasse en soit interdite. Une vieille superstition chinoise attribue un fort effet aphrodisiaque à une poudre extraite de la corne et de la peau des rhinocéros. L'auteur décrit comment, et dans quelles conditions difficiles, un mâle et trois femelles furent capturés, au moyen de grandes trappes construites dans des endroits marécageux où ils ont l'habitude de venir se baigner. Deux des femelles ont pu être transportées à Bogor et Copenhague, alors que la troisième était victime d'un accident et que le mâle réussit à s'enfuir. Une deuxième expédition qui doit assurer la reproduction de cette espèce à Bâle, Copenhague et Bogor est en cours de préparation.