

COUNTRY REPORT — MALAYSIA

DISTRIBUTION AND POPULATION OF THE SUMATRAN RHINOCEROS *Dicerorhinus sumatrensis* IN PENINSULAR MALAYSIA

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BACKGROUND AND INTRODUCTION

The existence of about two Sumatran rhino in the Endau-Rompin area was mentioned by J.A. Hislop in 1965. The rhino conservation efforts in Peninsular Malaysia began in 1973 when the Department of Wildlife and National Parks drew up plans to study the species on a scientific basis. A graduate officer was obtained for this purpose through the Peace Corps Programme. Practical field studies began in 1974 with the proposed Endau-Rompin National Park being designated as the primary study area. In 1978, a Malaysian counterpart was recruited who under-studied this officer and subsequently continued the research as well as supervising the management plan that was drawn up. These studies have given us sufficient data on the population size, density, habitat requirements and the general ecology of the Sumatran rhino in the Endau-Rompin area.

At the 1st IUCN/SSC Asian Rhino Specialist Group Meeting held in Bangkok in 1979, an analysis of the situation of the species was considered a priority to be followed by the formulation of action plans to ensure the survival of the Sumatran rhino. The problems faced by the species were to be identified and the proper remedial measures taken in the light of its urgency and priority decided in each case. A strategic plan was to be developed by integrating the information gathered over a period of time.

Viable populations are needed for the long term survival of the Sumatran rhino. These populations have to be rigidly protected and systematically managed to ensure their continued survival. Survival improves with increased reproduction and decreased mortality. The more areas holding these rhinos are identified, the greater will be the rate of survival. There is no substitute for good information on breeding, numbers, home range, carrying

capacity and movement for effectively managing the species. Regular surveys have to be carried out to monitor known populations. The Sumatran rhino lives in forests both in the lowlands as well as the mountains. It feeds on tree saplings, climbers and other forest plants. In Peninsular Malaysia, three hundred species of plants have been identified as food items for the rhino. Surface water, wallows, salt licks and cover are important requisites of the animal. The Sumatran rhino is predominantly solitary in nature and has a large home range. The Sumatran rhino is endangered in Peninsular Malaysia. Fig. 4 shows the localities where the animal is known to be present. Poaching and illegal trade have been brought to a minimum and they do not therefore pose a serious problem. The general public too are in favour of wildlife conservation.

Taman Negara : Since the 1st Meeting a great deal of work has been done to survey the area. Information given elsewhere in the paper (Table 1) indicates that between 22 and 36 rhinos are known to occur in Taman Negara. Taman Negara being a national park, provides a sanctuary for the rhinos. The proposed plan to build a dam on the Tembling river has been shelved indefinitely.

Sungai Dusun Game Reserve : This game reserve has an area of 10,400 acres set aside for the conservation of the Sumatran rhino inhabiting the area. The surrounding areas are extensively developed and therefore pose a serious threat to the integrity of the animals. A lot of work has been done on the species and estimates of the population size vary from 3, 3-5 and 5-6 depending on who carried out the surveys. The capture of rhinos for a captive breeding programme has resulted in 4 females in captivity. One female was killed in 1986, while in 1984 a young male rhino died after it was abandoned by its mother. There should be another 3-4 animals; a female and its young and possibly two males. Past estimates have been rather conservative. Apart from the captive breeding programme to be carried out in the Malacca Zoo, a gene-pool project too is being planned for the Sungai Dusun Game Reserve.

Taman Negara holds the most number of Sumatran rhino in Peninsular Malaysia. On the south western part of the park, along the Sungai Tanum, signs of rhino were observed at Jenut Atai and Jenut Kumbang. The number is estimated between 2-4. Travelling by boat up the Tembling river, the point of entry to the park is at Kuala Atok. Rhino signs are often observed by visitors to the upper reaches of this river. About 3-4 animals are known to occur here. Further up the Tembling river is Kuala Tahan, the head quarters of the National Park. The valley of the Tahan river is the area that is most frequented by both visitors as well as Park staff. On a number of occasions, rhinos had actually been seen by wildlife officers. At least 3-4 animals occur in this valley. Further up the Tembling river, after passing the Trenggan and the Kenyam rivers, is the Sat river. The upper part of this river has a number of tributaries such as the Jintoh, Gagau and Lotong rivers, where rhinos have been observed. Gunung Gagau extends on to the borders of

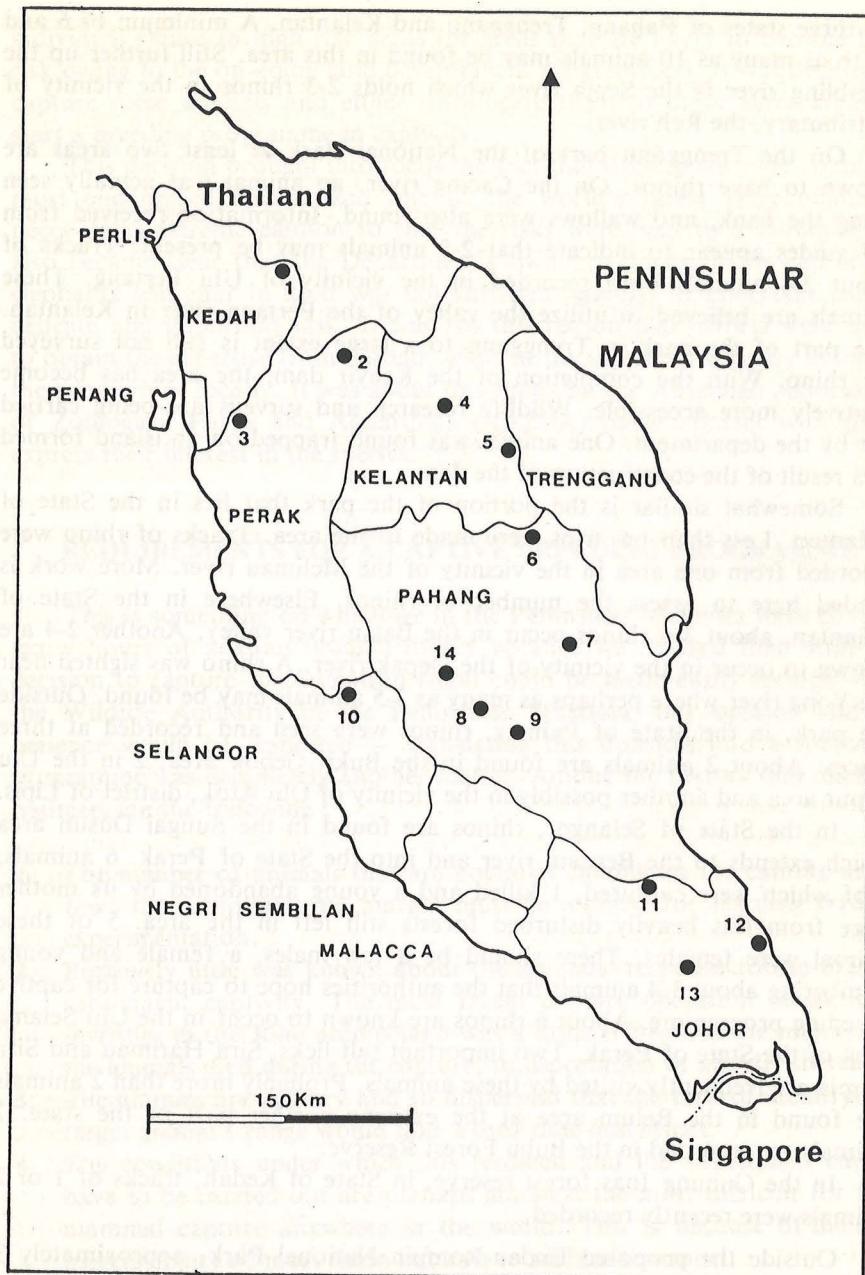


Fig. 4. Map of Peninsular Malaysia showing the locations where the Sumatran rhinoceros is known to be present. 1. Kedah border, 2. Ulu Belum, 3. Ulu Selama, 4. Kuala Balah, 5. Sungai Depak, 6. Taman Negara, 7. Sungai Lepar, 8. Krau Reserve, 9. Bukit Gebok, 10. Sungai Dusun, 11. Endau-Rompin, 12. Mersin coast, 13. Gunung Belumut, 14. Ulu Atok.

the three states of Pahang, Trengganu and Kelantan. A minimum of 6 and up to as many as 10 animals may be found in this area. Still further up the Tembling river is the Sepia river which holds 2-3 rhinos in the vicinity of its tributary, the Reh river.

On the Trengganu part of the National Park at least two areas are known to have rhinos. On the Cacing river, an animal was actually seen along the bank, and wallows were also found. Information received from old guides appear to indicate that 2-3 animals may be present. Tracks of about 2-4 animals were recorded in the vicinity of Ulu Pertang. These animals are believed to utilize the valley of the Pertang river in Kelantan. The part of the park in Trengganu to a large extent is still not surveyed for rhino. With the completion of the Kenyir dam, the area has become relatively more accessible. Wildlife research and surveys are being carried out by the department. One animal was found trapped on an island formed as a result of the construction of the dam.

Somewhat similar is the portion of the park that lies in the State of Kelantan. Less than ten trips were made to the area. Tracks of rhino were recorded from one area in the vicinity of the Melimau river. More work is needed here to assess the number of rhinos. Elsewhere in the State of Kelantan, about 2-4 rhinos occur in the Balan river valley. Another 2-4 are known to occur in the vicinity of the Depak river. A rhino was sighted near the Yong river where perhaps as many as 3-5 animals may be found. Outside the park, in the State of Pahang, rhinos were seen and recorded at three places: About 2 animals are found in the Bukit Gebok area; 2 in the Ulu Lepur area and another possibly in the vicinity of Ulu Atok, district of Lipis.

In the State of Selangor, rhinos are found in the Sungai Dusun area which extends to the Bernam river and into the State of Perak. 6 animals, 4 of which were captured, 1 killed and a young abandoned by its mother were from this heavily disturbed forests still left in the area. 5 of these animal were females. There should be a few males, a female and young numbering about 3-4 animals that the authorities hope to capture for captive breeding programme. About 6 rhinos are known to occur in the Ulu Selama area of the State of Perak. Two important salt licks, Sira Harimau and Sira Kemia are frequently visited by these animals. Probably more than 2 animals are found in the Belum area at the extreme norther part of the state. 2 animals are recorded in the Babu Forest Reserve.

In the Gunung Inas forest reserve, in State of Kedah, tracks of 1 or 2 animals were recently recorded.

Outside the proposed Endau-Rompin National Park, approximately 3 rhinos may occur in the Belumuth forest reserve. The vastly cleared forest between Mersing and Kota Tinggi stretching to the sea may hold about 5 or 6 animals. A female was captured at Tenggaruh. Further research was then concentrated on the distribution of the species in the Peninsula. These studies showed that while there were stable and well protected populations in several palces, there were equally some small and fragmented groups or

individual rhinos in high risk areas (or areas that are likely to become high risk owing to the on going land development programmes). It was decided to capture these animals and either translocate them to other safer areas or start a breeding programme in captivity.

This decision brought into focus the fact that dealing with the country's most endangered species and one of the world's rarest large mammals necessitates extreme caution so that the risks were held to a minimum. It also became clear that the Department's own experience in the capture of elephants and gaur in itself was not sufficient enough to undertake such a delicate and important task. It was for this reason that efforts were made to obtain the expertise from abroad, while at the sametime actually initiating the programme locally. It was about this time that the American Association of Zoological Parks and Aquariums (AAZPA) made contact with us to express their interest in the species.

REQUIREMENTS FOR A CAPTIVE BREEDING PROGRAMME

This is something on which we in the Peninsular Malaysia have devoted many hours of anxious thought simply because we realised that while the decision to capture the Sumatran rhino could be made easily enough — as the Wildlife Authority in the Peninsular Malaysia, our opinion and experience would be respected — translating this decision into a successful programme was completely another matter. Among the factors that made us hesitate, are the following :

1. The number of animals that are potential candidates for capture are so few that absolutely no margin must be allowed for learning error or experimentation.
2. Relatively little was known about the animals' response to capture and subsequent captivity. The most recent capture operation in the early seventies in the Riau archipelago was a disaster because the majority of the animals died during the capture, transportation or shortly thereafter.
3. The animals are solitary and so dispersesd that the task of identifying a target animal's range would take a long time and effort.
4. The conditions under which this research and the subsequent capture have to be carried out are perhaps amongst the most difficult for large mammal capture anywhere in the world. This is because of the sheer inaccessibility of most rhino habitats to surface transport.
5. The project was going to require funds for the work of the survey teams, for the construction of traps and transport cages, and for the purchase of suitable vehicles. On the whole, in Peninsular Malaysia, we felt that we could find the necessary funds for these requirements.

ACTIVITIES TO DATE IN THE PENINSULAR MALAYSIA

A) The capture of two female Sumatran rhino in Peninsular Malaysia: In April 1984, a young female Sumatran rhino was captured by estate workers in an oil palm plantation, near Jeram, Selangor. This animal was one of the young born to the Sungai Dusun Group and the Department had been aware of the animal's movements for more than seven months. Apparently, the animal had just reached the age when it had to find a territory on its own. This, it could not do in the Sungai Dusun area, probably because of two reasons :

1. there was already a sizeable population of rhino occupying the somewhat small habitat available for them at Sungai Dusun and its surrounding forest, and
2. recent land clearing and development had further reduced the amount of forest available in the general area.

The animal had taken to wandering into the maze of oil palm plantations south of Sungai Dusun and at the time of its capture, it was in fact very much at home in such a habitat. This is in marked contrast to the behaviour of rhinos in the forest which need a closed canopy forest.

The second animal caught was also similarly young and was apparently trying to locate a territory. She too was probably from the general Sungai Dusun group of animals not unlike Jeram (the name of the first animal) had probably lived north of the Bernam river and had wandered into plantations adjacent to the rapidly developing Melintang forests.

We consider ourselves extremely fortunate in having brought both animals into captivity without any major mishap. In both cases, suitable transport cages were available and the point at which the estate workers had secured the animals was accessible to both lorry and crane. This allowed us to have both animals crated within 24h of capture and transported to the Malacca Zoo within the subsequent 12h. However the whole operation was carried out under emergency conditions and anything could have gone wrong. Certainly we would not even dream of carrying out any capture operation if we did not have infinitely more control of our circumstances.

B) The current capture operation: There are at present two areas in the Peninsular Malaysia where the Sumatran rhinos are surviving in isolation and in some degree of risk. These areas are: Bukit Gebok in Pahang, and Tenggaroh in Johor. Both areas have possibly two animals each. The department constructed a corral-type trap in each area and is in the process of establishing a number of pit traps at both sites. The corral-type was abandoned as it was found unsuitable.

On the 8th February 1986, an adult female was captured in our pit trap in Tenggaroh. We mounted an operation to take the animal (a

female) out and by evening, of the following day the animal was successfully taken out of the pit and transferred to the Malacca Zoo. She was in excellent condition. On the 6th July 1986, another female, believed to be from the Sungai Dusun population, was captured near Sungai Samak, Ulu Bernam, Perak. She too was successfully retrieved from the pit the same night and transferred to the Malacca Zoo. The latest rhino capture was on the night of 8th September 1986, when an animal was caught in a pit trap near Sungai Dusun.

Table 1. Distribution of Sumatran rhinoceros in Peninsular Malaysia.

State	Locality	Minimum	Maximum
Pahang	TAMAN NEGARA		
	Tanum	2	4
	Atok	3	4
	Tahan valley	3	4
	Gagau	6	10
	Sepia	2	3
	Cacing	2	3
	Ulu Pertang	2	4
	Ulu Merlimau	2	4
		22	36
Kelantan	Kuala Belah	2	4
	Sungai Depak	2	4
	Sungai Yong	3	5
		7	13
Pahang	Krau	1	1
	Bukit Gebok	2	2
	Ulu Lepar	2	2
	Ulu Atok	1	1
		6	6
Selangor	Sungai Dusun	3	4
Perak	Ulu Selama	6	7
	Belum	2	4
	Bubu Forest	2	2
		10	13
Kedah		1	2
Johor	Endau-Rompin	10	25
	Gg. Belumut	3	4
	Mersing/Kota Tinggi	5	6
		18	35
Total		67	109

DISCUSSION

SINGHAPANT : commenting on the situation across the Thai/Malaysia border, pointed out that such a proposal was discussed by the Wildlife Committee in Bangkok and had been accepted. Currently efforts are being made in Thailand to designate the area a Wildlife Sanctuary.

KHAN : mentioned that similar efforts were also being made in Malaysia. In reply to a query from Mr. Nardelli, he said that some fighting was observed between two female rhinos when they were first brought into contact in captivity. Asked by Prof. Rubini if the male or the female was the more aggressive, he replied that he could not comment since there were no male rhinos in captivity in Malaysia !

BLOUCH : pointed out that in Sumatra the only lowland area in which the rhino occurs was the Torgamba production forest, the rest of the animals being confined to the hills. He asked whether this was the case in Malaysia too ?

KHAN : replied that the animals in general inhabited the hills in Malaysia, but some animals were also found in lowland areas such as Sungai Dusun.

WIDODO : wanted to know why in Indonesia, more male rhinos were being captured, while in Malaysia only females were getting caught ?

ABDULLAH : felt that Dr. Buntaran's explanation that the males were more alert than the females might not be the reason for the disproportionate sex ratio of the animals in captivity. He argued that the explanation might be found in the home ranges: the males tended to have a larger home range than the females and therefore the females were more likely to get caught in traps than the males.

SANTIAPILLAI : asked in that case why it should not be so in Sumatra as well ?

KHAN : responding to Ir. Roedjai's comment said that the ultimate target in Indonesia was to set aside 10% of the total land area for Nature Conservation, but added that land acquisition was a more difficult problem in the Peninsular Malaysia where the pressures from the human population were high. Nevertheless, Mr. Khan said that between 8 - 10% of the land is to be set aside for Nature Conservation in Malaysia. He also referred to his continuing efforts to increase the conservation areas through a compromise with the Forestry Department in such a way that forests could be used for dual purposes: forestry and wildlife conservation. There were good indications for future progress in this field.