(4) to allow a full inspection of all books by the Local Government.

The agreement will be considered null and void if operations are not commenced as provided for in the terms of the concession.

Copies of the report of Mr. Sindall on the manufacture of paper and paper pulp in Burma can be purchased from the Superintendent, Government Printing, Burma.

WE are informed that, with a view to test the market, the Mysore State have sent logs of Dalbergia latifolia, Terminalia tomentosa, Lagerstrœmia lanceolata, Adina cordifolia, Artocarpus hirsuta, Anogeissus latifolia, and Cedrela Toona to Egypt at a cost of Rs. 2,649 and sold them for Rs. 5,496.

WE are informed that the Hanbury Gold Medal for the prosecution of original research in the Chemistry and Natural History of Drugs has this year been awarded to Mr. David Hooper of the Indian Museum, Calcutta. Mr. Hooper came out to India in 1884 as Quinologist to the Cinchona Plantations, Nilgiris, and during the past ten years has been Curator of the Industrial Section, Indian Museum. He has made numerous examinations of Indian Forest products, and reference to his work has frequently been made in the pages of this magazine.

## SHIKAR, TRAVEL, AND NATURAL HISTORY NOTES.

### TRAPPING OF RHINOCEROS IN THE DINDINGS, STRAIT SETTLEMENTS.

Having read with interest many sporting stories from time to time in the pages of the *Indian Forester*, I venture to think an account of the trapping of a rhinoceros I witnessed in the Strait Settlements, may be of some interest to others.

One day, early in September 1905, a couple of Malays applied for permission from the District Officer to trap a rhinoceros which they came across while out in the forest in the "Ulu" (Malay name for up-country).

Rhinoceros are fairly rare in the Strait Settlements and it is seldom that they are trapped or shot. So being up in the Ulu, on hearing of the proposed trapping, I started for the scene of operations. The next morning the Malays set to work to lay out the trap; but before the actual operations commenced, a little cooked food was offered as a sacrifice to "Dato Utang" (god of the forest) to ensure success in the undertaking.

A rectangular pit measuring 8 feet in length, 4 feet in width and 6 feet in depth was dug, and a good many hardwood saplings of 8 feet in length and 5 to 6 inches in girth were cut for lining the four sides of the pit. These poles were buried 3 feet into the bed of the pit in vertical lines as close together as possible, and were further strengthened and held in position by horizontal poles, the ends of which were inserted into the sides of the pit, the end vertical poles being tied on to these horizontal poles.

The dimensions of the pit or trap are more or less proportionate to those of a full grown rhinoceros. The reason for the lining of the pit with vertical poles is to prevent the rhinoceros from using its horn and feet in digging and so making its escape. After the poles had been fixed in position a space of one foot was left all round the pit from the top of the poles to the surface level. A cover of interlaced leafy branches was then made and placed over the opening of the pit the ends of which rested on the top of the vertical poles. Over this covering a layer of loose earth was put, and brought to the same level as the ground surface. A part of the excavated earth was used for building two small "bunds" which ran parallel with one another for a distance of a couple of yards from the edge of the pit towards the direction from which the rhinoceros was expected, and the surplus earth was carried away and deposited some distance from the site of operation. After this, all the remaining twigs, cut branches, leaves and earth were

taken away, and the disturbed surface round about was brought to its original condition by the spreading of dead leaves evenly all over the surface.

One has no idea how particular Malays are when engaged on this kind of work ; although they are, as a rule, heavy smokers, not a "Kokko" (a Malay cigarette) passed their lips throughout the whole day while engaged in laying the trap, and when I pulled out a cigarette to kill time I was politely asked not to smoke, as rhinoceros—according to the Malay—can scent a human being a mile off.

We left the forest at 6-30 P.M., and camped on the banks of the Sungei Betting Luas (river) for the night in a roughly made hut, raised about 6 feet from the ground on poles. Early next morning a couple of Malays were told off to inspect the trap from a reasonable distance and to return at once and report ; but we had no luck that day. After inspecting the forest on the opposite bank of Sungei Betting Luas I returned and spent another night in the hut deciding, however, to shift next morning if nothing turned up ; but luck favoured us, for the exciting news was brought in early next morning from one of the watchers : that a "Badah" (rhinoceros) had fallen into the trap ! I set off at once with my guards and the remaining Malays armed with a couple of my guns and "Parangs" (Malay knife).

The rhinoceros, on catching sight of us, became furious, and it's grunting was sufficient to make brave hearts quail. Any way with all it's grunting, and struggles to escape, it was quite safe in the trap. It was a magnificent specimen of a three-quarter grown bull rhinoceros, it had a horn about $2\frac{1}{2}$ to 3 inches long and stood from $4\frac{1}{2}$ to 5 feet in height : its skin was of a dark reddish brown colour.

The Malays, after a great deal of excitement, set to work to build a cage, (which is constructed of hardwood saplings and rattan cane and its dimensions those of the trap). After it had been completed it was carried and placed on the edge of the trap, the open end facing the animal's head. Two lines of poles were driven in running from the mouth of the cage to a little

beyond half way down the side of the pit, so as to prevent the rhinoceros from escaping when driven out of the trap.

The Malays, after consultation amongst themselves as to the best way of getting the rhinoceros out with as little harm as possible to the animal as well as to themselves, decided to get the animal to run into the cage from the trap of its own accord, and the following method was adopted :—

Four men took up their positions, two on either side of the pit, and started to shovel earth into the trap in front of the animal. As the earth was being poured in the rhinoceros shook it off its head and back and trampled it under foot so that within a couple of hours there was sufficient earth in the pit to encourage the rhinoceros to make a desperate attempt to get out, in which, however, it failed. In the meantime a couple more Malays took up their positions, one at the end of the trap facing the animal's back, armed with a sharp pole, while the other placed himself on one side of the open cage ready with a pole to close the mouth of the cage when the rhinoceros ran into it. After another half hour's work the animal, with a desperate effort, managed to struggle out and run headlong into the cage, and before it had time to back out again, the mouth of the cage was closed by the Malay thrusting the pole through the vertical bars and thereby holding the animal prisoner. Although there was hardly any room in the cage for the rhinoceros to use its strength, still its struggles to free itself were tremendous, and it would very likely have succeeded had not the men been on the alert and further strengthened the cage by strapping additional horizontal poles on to the sides.

After this the animal was left alone without food for the rest of the day and the best part of the next, in order to reconcile it to its fate and force it to give in through starvation and exhaustion.

A thank offering was then made to "Dota Utang's" consideration in favouring their enterprise, a few prayers were said in token of gratitude, and the beatings of tomtoms commenced to celebrate their success. In the meantime a couple of Malays were sent into Lumni—the Government head-quarters of the Dindings—to inform

the District Officer and make the necessary arrangements for shifting the rhinoceros from the forest.

I left early next day for Betting Luas with the guards and returned four days later along with the two Malays who had gone to Lumni. I was rather surprised to observe the marvellous change that had come over the rhinoceros, undoubtedly its spirits were completely subdued, it actually allowed itself to be fondled and dug at without a grunt or any other sign of vexation. On the third morning of its capture it was fed on jack-leaves (Arthocarpus indica) and herbaceous plants on which it chiefly lives.

A point of interest, that here may be mentioned is the commercial value of rhino urine and dung. These were regularly collected, the rhino staling about 2 bottles of urine at a time, and I was witnessed to the sale of one bottle of urine for Rs. 8-12-0. This is used for rheumatism by the Chinese and the urine is powerful enough to raise blisters on human skin.

To come back to my narrative, a good part of the next day was idled away awaiting the return of a Malay, who had been sent to reconnoitre the forest and fix on the easiest route to the bank of the Sungei Betting Luas. On his return, preparations were made for shifting the animal.

While the animal was being fed and his attention drawn away a couple of poles were removed from the bottom of the cage underneath the animal's feet, the rhinoceros was then made to shift a bit, causing its four feet to slip through the open space at the bottom of the cage left by the removal of the two poles. The cage was then lifted about a foot from the ground and held in position by six sturdy Malays while a couple more were busy fixing three horizontal poles that were passed through the cage over the rhinoceros' back, then four more poles were passed through the bottom of the cage and similarly fastened so as only to allow sufficient space between them for the animal to move its legs at a walking pace. The idea of this was to cause the rhinoceros—although a captive—to carry its own cage and shift itself along, instead of being carried, which would incur a great deal of risk, labour and expense.

Rattan ropes were then fastened on to the four corners of the cage, a fifth being fastened in front, and all were held by Malays. The four men—two on either side—pulled away from one another, whilst the fifth dragged and guided the captive rhinoceros in the right direction. One more man (the sixth) walked close behind the cage occasionally goading the rhinoceros to make it move on.

Early next morning we left the forest for the Sungei Betting river, which we reached late in the evening. A couple of days were spent here getting a large size "Sampang" (Malay boat) up the narrow stream. A wooden contrivance, in the meantime, was built for loading the animal into the boat. Early on the third day the cage was loaded into the boat and we started for Lumni, which was reached on the second day.

Altogether 10 days were taken from the time the animal was captured to the time it was brought safely into Lumni.

Luckily there was a steamer leaving for Penang on the afternoon of the day of our arrival at Lumni and the rhinoceros was put on board, one of the trappers accompanying it. On the return of the Malay I learnt that the rhinoceros was sold to a Muhammadan merchant for the paltry sum of 200 dollars. Three weeks afterwards when on a visit to Penang I learnt that this merchant had sold it to another merchant in Singapore for 500 dollars, who bought it for the purpose of selling it to the Madras People's Park.

Being interested in the welfare of this rhinoceros I made further enquiries and found out that it had been exported from Singapore to Madras and sold for Rs. 1,500. I am not in a position to vouch for the above statement, but this is all I could gather as to the disposal of the animal; any way, it was not in Singapore when enquiries were made by me.

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# INDIAN FORESTER

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## REVIEW ON THE NEW EDITION OF VOLUME IV OF DR. SCHLICH'S MANUAL OF FORESTRY.

FOREST PROTECTION, BY MR. W. R. FISHER.

(*Contributed.*)

This second edition of Mr. Fisher's work is based on the fourth edition of Dr. Hess's Forstschutz which was published in 1900. It contains something over a hundred additional pages and 41 more plates than existed in the former edition. Most of the additional matter is due to additions made by Dr. Hess in the last edition of his work. Mr. Fisher's book, however, is not merely a translation of the German work, but is adapted to suit the requirements of English and Indian foresters. It now forms a large volume of over 700 pages, of which one-third is devoted to insects.

From the European standpoint, we have nothing but praise to give to this new and improved edition of a standard work which may well serve as a model of exhaustive research, but from our own point of view, namely that of the Indian forester, we