

this stage Forester Selvaraj who is in-charge of the elephants took charge. Instead of letting Devaki go out into the jungle at night as usual he had her secured on the outskirts of the camp.

The second bout of pains set in at 8.40 p.m. and at 8.45 p.m. the first calf arrived—a normal birth, head first.

Devaki set to work cleaning the calf of the amniotic fluid with earth gathered from the area, and in 10 minutes the calf was able to get up.

At 9.00 p.m. the 2nd calf was born, also a normal birth. To Devaki who had given birth to four calves before this was something new and she kicked the calf aside, perhaps mistaking it for the placenta. The calf fell into a depression and Forester Selvaraj and his assistants dragged it aside and cleaned it of the birth fluid. This calf took half an hour to stand up. It took Devaki considerable time to get reconciled to the fact that the second calf was hers.

The calves were not weighed, but their weight, according to the Forester, was normal. They stood 2' 11" and 3' at the shoulder—the average height at birth being 3'.

Tara, another cow elephant at the camp gave birth to twins some five years previously. Only one of the calves survived and the other was presumed to be a still birth. These calves were born in the jungle as in the majority of cases.

But for Forester Selvaraj's initiative and the care and attention he and his staff bestowed on Devaki, the 2nd calf would have surely been trampled and written off as a still birth if it had been discovered at all in the jungle. This may, perhaps, be the reason why twins are thought to be so rare among elephants.

'CANOWIE',
COONOR-1,
NILGIRIS,

August 11, 1971.

PRIYA DAVIDAR

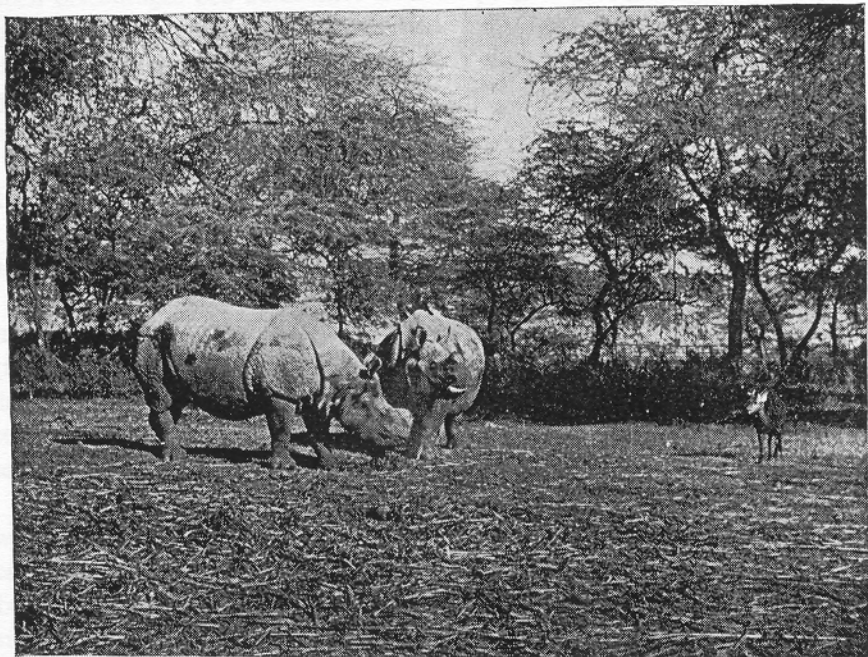
BHATIA & DESAI

4. BREEDING OF THE INDIAN RHINOCEROS (*RHINOCEROS UNICORNIS*) AT DELHI ZOOLOGICAL PARK

(With a plate)

The Great Indian One-horned Rhinoceros (*Rhinoceros unicornis*), like all rhinoceroses, does not breed readily in captivity. Till 1960, only five calves were born in captivity. One reason for few rhino births in captivity might be the violent battles that take place between the sexes

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Above : The Parents.

Below : Rhino Baby and Mother at Delhi Zoological Park.

which discourages zoo authorities from keeping them together. During the last ten years, however, more Indian rhinos have been bred in captivity. The International Zoo Yearbook, Volume 10, published in 1970 by the Zoological Society of London, lists twelve births of Indian rhinoceros in captivity.

The Delhi Zoological Park obtained 'Mohan' a male Great Indian Rhinoceros in December, 1965. It was three and a half years old when it came to the zoo. Later in March, 1968, a female 'Rongi' of about six years of age was brought to the Zoo from Gauhati, Assam.

The rhino enclosure at the Park is an open air enclosure of about an acre in area. The enclosure has a luxuriant growth of naturally growing trees and undergrowth of *Prosopis juliflora*. In the centre of the enclosure, a wallow has been provided. The enclosure has a few cells and a large enclosed paddock where the animals could be kept separately.

Rongi, arrived at the zoo in the evening of 28th March, 1968, and was kept in the paddock. 'Mohan' was at that time kept in the outer enclosure. It was observed that Mohan was very interested in Rongi but she was very restless for the first few days. Later both used to smell and see each other. It was then decided to introduce her to Mohan. However, it was not without anxiety as it was known that rhinoceros did not readily live together in captivity. In fact, a pair at Whipsnade Zoo had fought and the female was eventually removed to Regent's Park, London. A pair at Chicago, USA, had never become reconciled to each other.

Precautions were therefore taken to avert any possible trouble. In the early morning hours of April 14, 1968, about 20 keepers and attendants stood by with crackers, tin cans and bamboo sticks. The partition door between the paddocks and the main enclosure was gradually opened. At 7.00 a.m. Mohan and Rongi met for the first time in the middle of the enclosure. The male was more interested in mounting but the female kept him at a distance. She looked apprehensive, broke off and ran away several times. After about an hour, both settled down, the male went to the mud wallow and the female was seen eating green fodder. Fortunately, there was no fight and the two settled down in course of time.

The female came into oestrus on 4th January, 1969 for the first time but the male remained indifferent and mating did not take place. She again came in oestrus on 22nd September, 1969. This time, the male was continuously seen chasing the female in the enclosure and also in the moat. The female, however, broke off and ran away several times. At about 1.00 p.m. a very fierce fight took place between the

two, and both were injured. Later the male was shut in the paddock to avoid one of them being very seriously injured. Two days later the male was released, again with due precautions and there was no fight. On 1 October, 1969, hard blowing and shrill whistling noises were heard from both as they ran about in the enclosure and in through the water in the moat. Several sharp skirmishes also took place between the two but this time one of them was not shut inside. At 2.40 p.m. first mating took place. The whole act lasted for about 30 minutes. In the afternoon another mating was observed. No mating was observed from 2nd October, 1969 onwards and both became quiet. It was hoped that successful mating had taken place, and in the late winter it became apparent that the female was pregnant.

Both the rhinos were, however, kept together in the same enclosure till July, 1970 when Mohan was shut into the paddock. The female was now definitely in calf. Her mammary glands increased in size and became active. She also stopped showing any interest in the male in the adjoining paddock.

On 27th January, 1971, she took her usual food at 11.30 hrs. and retired into the bushes. At about 15.00 hrs. she became very restless and emitted bleating sounds on and off. It was apparent that she was in labour pains. At 16.00 hrs. she went to the far corner of the enclosure, away from the public, and sat in a small wet depression. A watery discharge was seen and she stood up at 16.15 hrs. when birth became imminent. The front legs and head emerged while she was standing and at 16.20 hrs. she exerted a little and the calf was born. She was totally exhausted and sat down and showed little interest in the calf for the first five minutes and then started licking it. The duration of gestation in this case was 484 days as calculated from the day of last mating to the day of birth.

The baby was pink coloured at birth. At 17.05 hrs. the calf made attempts to stand up but could not succeed. However, by 18.15 hrs. the baby was standing.

The last observation of the mother and calf was made at 19.00 hrs. on 27th January, 1971 and till then she had not nursed the calf. Next day, in the early morning hours, the calf was seen suckling. The vulva of the baby appeared very prominent and it was possible to sex her on the 28th January, 1971. The colour of the skin also appeared to be slightly darker than on previous day. The mother was very protective of the calf and even did not come for feeding during the daytime. She, however, came at about 19.00 hrs. for feeding along with the calf. She first made the calf sit down on the straw padding in the enclosure and then went for feeding. This procedure was followed

till the middle of February, 1971. On 20th February, she came out of the bush with the baby in broad day-light at about 13.00 hrs.

On 27th February, evening the calf was seen nibbling green fodder for the first time. She took some fodder leaves in her mouth and attempted to chew and continued to play like this for about 15 minutes. From 17th March, 1971, the calf started to take some green fodder. The calf has now grown considerably stronger and bigger.

DELHI ZOOLOGICAL PARK,

NEW DELHI,

June 16, 1971.

C. L. BHATIA

J. H. DESAI

5. WHITE BISON OF MANJAMPATTI

With reference to Mr. Davidar's note on the 'White Bison' in the Vol. 67 (3) of the *Journal*, your readers might be interested to know that there is a mounted specimen of the head of a cow 'white bison' in the High Range Club in Munnar. This was, I think presented by a Mr. Ranicar and was obtained from the Talanji area prior to 1939. The pelage is fawn, and was originally almost cream coloured, but has darkened somewhat with age and dust. Though I have never seen the 'white bison' in this area myself I have spoken to many planters, all of whom have since retired, who, like Mr. Ranicar, saw the herd on many occasions. I gather that in those days the pale coloured variation was confined to the animals in one herd only. Over the past twenty years I have frequently asked the Pulyars, as well as the Muduvans who occasionally visit the area, whether there are any 'white bison' left, and have always been told that they have not seen any for many years. On my many trips during that period along the Munnar-Udumalpet road, although I have occasionally seen the normal-coloured Gaur. I have never seen any of the pale variety, and my information from the above-mentioned planters was that in the old days the herd was never seen west of the Pambar-Amaravathi River.

LOWER VAGAVURRAI ESTATE,

TALLIAR P.O.,

KERALA,

July 2, 1971.

J. C. GOULDSBURY