

THE BREEDING OF THE GREAT INDIAN RHINOCEROS AT WHIPSNADE PARK

by E. H. Tong

Director of Whipsnade Park

MOHAN, a male Great Indian Rhinoceros (*Rhinoceros unicornis*) came to Whipsnade on 7th August 1947, and was believed to be four years old on arrival.

The Society decided in 1950 to obtain a female from the Assam Government but although many males were caught, it was not until 13th February 1952 that a female was captured in the Kaziranga Game Reserve. For a variety of reasons this female which was named 'Mohini' did not arrive at Whipsnade until 16th July 1952. She was then stated to be two-and-a-half years old.

She arrived at Whipsnade in the evening, after Mohan, the male, had been shut up for the night, and she was put in the adjacent house. Both houses are built of concrete blocks with asbestos roofing with no windows; nevertheless Mohan sensed Mohini's arrival, and the following morning proceeded to bend some of the heavy tubing surrounding his enclosure, and also damaged part of the asbestos roof of Mohini's house. He was most interested and when both animals were yarded side by side, was very restless.

On 8th June 1954, after Mohini had been at Whipsnade for two years, she first came into oestrus. She was then believed to be four-and-a-half years old. As a result, it was decided to introduce her to Mohan at 7 p.m. that evening, but not without some apprehension as the impression had been gained that rhinoceros did not readily live together in captivity. In fact a pair at Whipsnade pre-war had fought and eventually the female was removed to Regent's Park. A pair at Chicago Zoo never became reconciled to each other. Precautions therefore had to be taken to avert any possible trouble, so galvanized iron sheets and hammers were kept in readiness to create as much noise as was possible. In addition the fire pump was connected up to the mains and the engine kept running.

The doors of both houses were opened simultaneously at 7 p.m. and Mohan and Mohini met in the middle of the paddock for the first time. The female continually emitted a shrill whistling sound and passed urine at short and frequent intervals. Both animals stood nose to nose, each waving the head up and down for minutes at a time. The male appeared to be somewhat afraid and broke off and ran away several times until eventually he went into the pond,

standing up to his neck in water, and although Mohini came to the edge of the water she failed to entice him out. After some time she returned to the centre of the paddock where Mohan later joined her and the head nodding continued, but all the time he was backing away until finally he galloped for the pond with Mohini in hot pursuit. Mohini emitted a shrill whistling noise and Mohan from time to time a lower whistling note with lots of loud blowing for most of the time. At dusk we became somewhat worried that Mohan would become chilled if he remained in the water throughout the night as all efforts to persuade him to leave the pond failed, but when it was almost dark he came out, and in the morning they were sleeping together in Mohini's house.

From the following table it will be seen that Mohini came into oestrus at intervals of forty to fifty days for the next two years, the last observed oestrus being on the 29th June 1956. Oestrus usually noted in the morning and lasted for twenty-four hours only.

First came into oestrus on 8th June 1954 and then on:

3rd August 1954
22nd September 1954 50 days
5th November 1954 44 days
17th December 1954 42 days
27th January 1955 41 days
28th April 1955 50 days
9th June 1955 42 days
26th August 1955 78 days
7th October 1955 42 days
10th February 1956 126 days
20th March 1956 39 days
11th May 1956 52 days
29th June 1956 49 days

Mohan (the male) appeared indifferent to Mohini on these occasions, but seemed to have his own period of oestrus or heat two days later. This view is shared by Calcutta Zoo and also by Dr Dillon Ripley.

Mating, nor anything approaching, has ever been witnessed, although Mohini occasionally whistled during the evening when in oestrus.

In the summer of 1955 it was suggested that the diet which consisted of clover hay, green foods, oats and maize might be too highly nitrogenous, so the feeding of clover hay was discontinued, and substituted by good meadow hay. It is known that rich clover hay contains oestrogenic substances that can have a deleterious effect on the fertility of some male animals. Despite this substitution, however, little or no changes in the behaviour of the male were observed

and he still appeared to have his period of sexual excitement two days after the female's oestrus.

Professor E. C. Amoroso of the Royal Veterinary College was consulted and it was decided to administer sex hormones to the male. Owing to the thickness of the hide it was impossible to administer by injection and so tablets were administered orally, the technique being to crush the tablets thoroughly and feed between slices of bread.

The following details show the courses of sex hormone treatment given:

METHYLTESTOSTERONE (ORGANON LAB.)	
<i>Course I</i>	150 mgm. t.i.d.
5th June 1956	15 × 10 mgm. tablets three times daily for four days.
<i>Course II</i>	150 mgm. t.i.d.
18th June 1956	15 × 10 mgm. tablets three times daily for four days.
DEHYDROANDROSTERONE (ORGANON LAB.)	
<i>Course I</i>	150 mgm. once daily
9th August 1956	15 × 10 mgm. tablets × 12 once a day.

It will be noted that the last recorded period of oestrus was 29th June 1956 and the course of Dehydroandrosterone did not commence until the 9th August 1956.

Hopes that successful mating had taken place began to arise therefore, and in the late summer of 1957 it was almost certain that Mohini was in calf. In fact, Keeper Rogers definitely stated that he had seen the calf move.

On the 22nd October 1957, Mohini's mammary glands became active and increased in size as the days went by. There was, however, no noticeable pelvic spread.

On the 29th October she became very restless and made a dismal bleating sound on and off all day. She carted her straw bedding from the stable to the yard and it was obvious that she was in the first stages of labour. The public and staff were completely excluded from the immediate area as she appeared to have an antipathy to all humans and wanted to get right away. She ate very little of her evening feed and at 4 p.m. was shut in her house.

The next morning, the 30th October 1957, Keeper Rogers found that the calf had been born and was up and suckling.

It will, therefore, be seen that from the last observed oestrus to the time of birth, the duration of gestation was 488 days.

The foetal membranes were found complete and were removed from the stable immediately.

The baby showed very pink under the dark skin on the first day but this was rather less noticeable on the second and subsequent days and soon was only to be seen at the folds.

The vulva of the baby was very prominent at birth and it was possible to sex on first sight. She was a perfect replica of her parent except that the head appeared elongated and the horn was absent.

It is interesting that when the infant first came out into the yard each day it urinated freely, at the same time adopting a squatting position like a bitch.

Immediately after the birth of her calf, Mohini seemed to be her usual docile self, but as the days went by she became suspicious and nervous of all human acts. When press photographs were first taken on the 5th November she ignored photographic flashes, but since then flashes have had to be banned. Equally a new electric fire, although suitably 'dulled', was not tolerated and had to be removed from the house. An immersion water heater was filled with water ready for the cold weather, but Mohini refused to enter the house until the water in the tank had ceased dripping. Her hearing is obviously very acute.

At the end of the first week the baby had grown considerably stronger and had started to push her mother head to head. Mohini on these occasions played very vigorously and it was fearsome to watch – she was so careful and yet so very clumsy.

THE RHINO HOUSE AT BASLE ZOO

by Dr E. M. Lang

Director of Basle Zoological Gardens

UNTIL recently the Great Indian Rhinos (*Rhinoceros unicornis*) at the Basle Zoo occupied a part of the elephant house which was built in 1953. Two young ones were born there in 1956 and 1958 respectively. However, as the five African Elephants gradually grew bigger and needed more and more room, the management decided to build the rhinos a new house in the Sauter Garden which, being virgin territory, provided plenty of scope for such a project. It was also high time for the Pigmy Hippopotamuses (*Choeropsis liberiensis*) to be given more breathing space. Hippos have become a tradition in the zoo, and not unjustly, for they have been kept and bred here successfully since 1928.

The main part of the new rhino house affords ample room for our adult pair of rhinos and their second offspring born in 1958, a female which is being kept