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## Breeding Behaviour of One-Horned Indian *Rhinoceros* (*Rhinoceros Unicornis*)

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When Padma, a female rhinoceros came to our zoo, she was sub-adult and as docile as a "cow". We used to pat her and feed her with our hands. When she reached the age of 4-4½ years, we became anxious to note the signs of heat so that she can be left with the "bored" male for breeding, housed close to its enclosure. Looking at her vulvar lips, expecting some discharge, and to note some bellowing sound was our routine, but to our ill luck there were no such signs for a pretty long time. At last one day we found the animal in heat. The signs of oestrus noted in the female restlessness, switching of the tail, micturition with short intervals, approaching the partition wall of the male rhino's enclosure, emitting low typical sounds, and constantly moving briskly and madly in the enclosure. The heat passed off slowly as the day advanced and the next day one could find it in a normal condition. The oestrus period is 24 hours and the duration of oestrus cycle noticed in our zoo is about 45 days.

We purposely allowed such six heats to pass off, as we could not make up our mind to allow the pair to breed. We were afraid whether they will kill each other. Lee. S. Grandall in his book "Management of Zoo Animals" has mentioned, "The violent battle amongst the breeding pairs which took place were so alarming that the combatants were to be promptly separated to save them from serious injuries. Often the continuing antagonism of the animals involved has brought the experiment of breeding to an end, so that many potential breeding pairs remain irreconcilable". But one fine morning to our surprise we found the male rhino roaming in the female's apartment while she was found sitting quietly in one of the corners. When enquired, the attendant informed us that at midnight he heard beating sounds on the iron door and found the chain, which locked the door, was broken, and the sliding door in between both the animals was opened and the male was

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courting the female. In the early morning he saw them mating. After 15 months i.e on 25- 11- 71 a calf was born. Gestation period was 459 days.

When the calf attained the age of 3 years it was decided to allow the female again to breed. We separated the calf from the mother and introduced the male into female's quarter on 7-11-'74. The mating took place in the presence of a huge crowd.

The detailed picture of mating is given below:

- 10.48 A.M. Calf isolated.
- 12.50 P.M. Male rhino allowed into the female's enclosure. Both the animals walked down into the dry moat. The male lifted both the hind legs and placed them on the female's back.
- 01:10 P.M. to 01:32 P.M. Actual mating started. During copulation the female went on pushing the male backward and started moving herself backward so as to have a complete thrust.
- 01:33 P.M. The backward pushing brought the pair into corner of the moat, as a result the male was squeezed and fell down.
- 01:35 P.M. The male got up and followed the female. The male charged the female for a while.
- 01:42 P.M. Male mounted again with full erection and tried penetration (wrong position).
- 01:44 P.M. Male got down, both sexes separated.
- 01:46 PM. Male mounted again, female moved forward, both separated.

01. 50. Female walked down into the moat, came out within a few seconds. Male followed it.

01. 52 Male mounted again.

01. 53 Actual thrust of the male organ. The female goes on moving backward slowly during copulation from time to time as it did before.

02. 11 Got separated.

02. 15 Female went into the quarter where the calf is shut, came out, sounds.

02. 20 Went again into the quarter. Male is found resting under a tree.

02. 22 The female walked towards the male in an aggressive mood. She was so furious that we were compelled to separate the male and to let loose the

Rhinos appear to have no well defined breeding season. Single young per birth is the rule. The gestation periods for the Indian rhino were recorded as 474 and 477 days at Basel and 483 days at Whipsnade. An accurate birth weight of a male Indian calf born at Basel in 1956 is given as 60. 5 kgs, or 133 lbs. Here in Nehru Zoological Park the gestation period is found to be 459 days but the calf could not be weighed.

On 12 5- 75 morning, a strange incident occurred. Padma, 6 months pregnant by now, became wild and started attacking its own baby. The calf went round and round in the enclosure looking helplessly at the mother. We separated the calf and called Padma with a handful of rice in order to examine it at a close distance. To our surprise the conjunctiva of both the eyes was found blood red in

colour, and its looks were anxious, but its anxiety had no effect on appetite. It gulped down the ration to the full and even asked for more. The rest of the day it spent roaming in a gay mood, now and then munching the green grass. Early morning next day the keeper came running with the information that the amniotic bag is out and Padma is going to abort. One kilo of Mag. Such. two ounces of pulvis ginger and two ounces of liquid extract of Ergot were mixed in Jaggery and boiled rice and were given to Padma. A second dose was repeated in the afternoon. After a few hours the bag burst opened. Throughout the day some shreds of amniotic membranes were seen hanging from the vulvar lips. The next morning a dead calf was found lying on the wet floor.

On 11-6-75 Padma again indicated the desire for the male. So the male was allowed "In" but instead of smelling and licking it straightaway went towards the female running wildly and started hitting the female with its head and horn. The female screamed pitifully and in order to escape this sort of beating, galloped allround the enclosure. But the male followed her wherever she went. This sort of chasing continued for 5-10 minutes and all our efforts to calm it were of no avail. Lots of bruises were inflicted in this fighting on both the animals.

Suddenly something strange happened! The female turned at bay and gathering all her remaining strength she took

the courage to charge, stood there with firm footing, head slightly bent down and the pointed horn up. This had the effect. The male accepted defeat and walked off quietly through the open door.

This fierce fighting made us stop breeding programme for a short period. But on 14th July 1977 Padma again came into heat. This time we decided to take a bold step and to allow the pair to have a fight till they reconcile. Hence the male was allowed in Padma's enclosure. This time the female started hitting the male at the flank. The male stood there for some time, then could not tolerate beating, and took the female to task. This followed a chasing all round the enclosure and lasted for about 1½ hours, till the male established his supremacy. Then the pair reconciled and copulated. The copulation period recorded was 62 minutes. (The maximum time recorded is 83 minutes.) A second calf was born on 16th November 1978, with the gestation period of 459 days- a beautiful coincidence.

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