

THE INDIAN ONE HORNED RHINOCEROS: AN OVERVIEW

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The Indian Rhino is also known as the "Greater One Horned Rhinoceros". This rhino is found in Southern Asia in the northern margin of the Indian subcontinent adjacent to southern slope of the Himalayas. It is a descendant of an old species of rhino. Despite its fearsome appearance, it is generally a peaceful animal. With strict protection from Indian and Nepalese wildlife authorities, Indian rhino numbers have recovered from under 200 earlier in 20th century to around 2,400 now. However, poaching has remained high and the success is precarious without continued and increased support for conservation efforts in India and Nepal.

Classification: The Indian rhino is classified under the Kingdom: *Animalia*, Phylum: *Chordata*, Class: *Mammalia*, Order: *Perissodactyla*, Family: *Rhinocerotidae*, Genus: *Rhinoceros* and Species: *Rhinoceros unicornis*

Geographical range Distribution and status: *Rhinoceros unicornis* once ranged extensively across the plain of Ganges from the Indus valley in the west all the way to Assam and across the north of India to Peshawar (near the border between Pakistan and Afghanistan). However, presently Assam and its neighbouring states along with West Bengal possess the natural population of this species in India. The Manas and Kaziranga reserve forests of Assam houses largest population of one horned rhinoceros in India. Kaziranga was a game sanctuary since 1926 and was closed to all visitors and immediately became the haunt of poachers. When opened to public in 1938, the activity of poaching ceased. The population of rhinoceros in the forest was 260 as per the estimate made by prominent Indian biologist E. P. Gee, in 1959.

The International Rhino Foundation lauded the conservation effort of this endangered species by the Indian and Nepalese governments as the effort has been able to increase the dwindled population (fewer than 200 individuals back in early 1900s) of this species (to 2,400 rhinoceros). However,

protection against poaching and other conservation efforts must continue to preserve this species in earth.

Physical Appearance: Indian rhinos are brownish grey in colour and are hairless. Both males and females have a single horn on top of their snout measuring upto 529 mm. The horn is made of agglutinated hairs. Their upper lips are semi-prehensile. Their skin has many loose folds, especially distinct around the neck region in males, which give the appearance of a suit of armor. The skin is covered with large tubercles. The largest of the Asian rhinos, male Indian rhinos weigh approximately 2,200 kgs and range in height from 170 to 186 cm (67 to 73 inches) and are 368 to 380 cm (145 to 150 inches) in length. Females are smaller, weighing 1,600 kg, standing 148 to 173 cm (58 to 68 inches) tall and are 310 to 340 cm (122 to 134 inches) in length.

Signs of estrus: The signs of estrus in females include loss of interest in food and water, restlessness, looking everywhere with head held high, frequent micturation and spraying of urine, rhythmic calls and whistling and the vulvae becoming swollen and pink red in colour. The estrus lasts for about 24 hours.

Reproduction: *Rhinoceros unicornis* attains sexual maturity at an age of 7-9 years in case of males and at 3 years in females. Females come into cycle every 5-8 weeks until she becomes pregnant. Breeding occurs throughout the year. Only dominant bulls mate and it is believed that bulls can assess the reproductive status of females through scent. Courtship may seem aggressive with male chasing females often resulting in fighting. Copulation lasts for about one hour.

The gestation period lasts for about 462 to 489 days after which one young calf is born. The new born calf weighs about 70 kg. Weaning usually occurs in one year, although it may last upto 18 months. Females have young at intervals of about three years.

The newborn calf almost immediately begin is impressive intake of milk enabling it to gain

2-3 kg in weight every day. The mother produces approximately 20-25 litres of milk per day. One week before the next birth, the female will chase away her previous calf. The lifespan of rhino is about 40 years.

The calf has all the skin folds of the adult at birth with a smooth plate on its nose where the horn will grow. An apparent difference between the African and Asian species is that the horn of the Asian rhino is more firmly attached to the skull because of the greater size of the bony base which supports it.

One horned rhinoceros have been breeding successfully in Zoos since 1956 but courtship has rarely been observed. However, females used to spray urine and utter a strange whistling sound with every breadth. The male reacts by in turn spraying urine and taking chase. The intimate signals between the partners are similar with that of the African black rhinoceros.

Behaviour: *Rhinoceros unicornis* is usually solitary animal except for females with young. Loosely bound aggregations of a few individuals do occur, especially at wallowing ground or foraging areas. There are loosely defined territories for males which are not well defended and often these territories overlap. Occasionally rhino interactions are aggressive, characterized by charges and horn clashes. Fighting between males is often a cause of death when population densities are high. Approximately 10 vocalizations are known for rhinos, including snorts, roars and honks. Scent deposition is common and often large communal dung heaps are formed. No evidence of the use of dung as a territorial marker has been encountered, although the one horned rhinoceros establishes and uses communal dung heaps in the same way as its African relatives. This is considered a social function and a continuously updated directory of animal present in the area. The dung heaps can become enormous as high as 1 metre (3 ft) and as much as 5 m (16 ft) across. They are added to by every animal passing by. There are reports that even the rhinos in full flight will pause to defecate on a dung heap, suggesting that it is socially imperative to update the directory, even more so in times of stress than when the community is at peace.

Food habit: The diet consists of grass, fruit, leaves, branches, aquatic plants and cultivated crops. Tall reedy grasses are preferred to short species. The prehensile upper lip is used to curl around grass stems to bring them into mouth. When eating aquatic plants, rhinos submerge their entire heads and tear the plant by the roots. Foraging occurs at night, in early morning or in late afternoon to avoid the heat of the day. *Rhinoceros unicornis* drinks daily and is fond of mineral licks.

Social structure: Although Indian rhinoceros are solitary creatures, they do congregate at bathing areas and wallowing holes. Female rhinoceros may be accompanied by her calf for several years. Male rhinoceros fight for dominance using their sharp lower teeth and not their horns. During these fights, their folds of skin help protect sensitive areas.

Conservation status: Rhinos are endangered, mainly from poaching. The main reason these huge animals are hunted is for their horn. The horn of rhinoceros is very different from that of a sheep or antelope. The horn is not attached to the skull. Rhino horn is made of compressed keratin fibres, the same material that is found in human fingernails and hair. Some people believed that rhino horn had powerful medicinal uses, ranging in use from stopping nose bleeds and headaches to curing diphtheria and food poisoning. The use of rhino horn for medical purposes has been made illegal since 1993. Despite various conservation efforts hunting of rhinos are still continuing as rhino horn can still fetch a price ranging between \$ 21,000 to \$ 54,000 per kilogram.

Predators: The one horned rhinoceros has almost no predators in the wild, though there is evidence that tigers can kill isolated young calves. When mother is around the calf is protected as she can fight fiercely in defense of her young and their teeth can inflict serious injury. Like so many large herbivores, the one horned rhinoceros, with its confidence born of invulnerability in its natural habitat, fall easy victim to the poachers and it is as effortless to kill as any other slow moving peaceable creature.

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