

Greater one-horned rhino



Name and species

- Common name: greater one-horned rhino
- Synonym: Indian rhino
- Scientific name: *Rhinoceros unicornis*: "uni" meaning one and "cornis" meaning horn in Latin

Physical characteristics

- Greater one-horned rhinos have a brownish-grey, hairless skin, which develops thick folds, resembling armour plating. Several prominent folds protect the neck. The skin has a maximum thickness of four cm; the subcutaneous fat is 2-5 cm thick and well supplied with blood, which helps thermo-regulation. Between the folds, around the stomach, the inner legs and the facial area, the skin is rather soft and thin. The tail lays well embedded between the hind-leg folds
- They are second in size only to the white rhino. They weigh between 4-6,000 pounds (1,800-2,700 kg), stand 1.75-2 metres tall at the shoulder, and are 3-3.8 metres long. Animals in the wild are in general "lighter" than their captive colleagues. A bull weighs on average around 1,800 kg
- Greater one-horned rhinos have one horn, which is typically 20-61 cm long, and weighs up to three kg. It has the same horn structure as the hooves of horses and re-grows if broken off. It is not used for fighting but for the search of food / roots
- They feed on wide variety of plants (up to 183 different species) with a strong seasonal variation: grass (80%, mainly *Saccharum spontaneum*), fruits, leaves and branches of trees and shrubs, submerged and floating aquatic plants and agricultural crops
- Greater one-horned rhinos eat on average 1% of their body weight daily
- They have a prehensile upper lip, which assists in grasping their food
- Greater one-horned rhinos have long lower incisor teeth. In males they can become up to 8 cm long. They are used in fighting and can inflict deep wounds
- Greater one-horned rhinos are hind-gut fermenters and have a large caecum (90 cm) as well as a large colon (6-7.6 metres)
- Greater one-horned rhinos live an average of 30-45 years in the wild; while the longevity record for those in captivity is 40 years
- Hair is found at the tip of the tail, around the ears and as eyelashes
- They are very good swimmers and can dive and feed under water. They seem to enjoy the wet element

- Greater one-horned rhinos spend up to 60% per day (according to the season) wallowing (most frequently during the monsoon, less during the winter). The access to water / mud is essential for thermo-regulation and to get rid of ectoparasites
- They have a good sense of smelling and hear very well, but are rather short sighted. This is one of the reasons why they tend to attack “at the last moment” or “out of the blue”
- Greater one-horned rhinos can run fast (up to 40 km/h) and are very agile

Location and habitat

- Greater one-horned rhinos are closely adapted to the life along bodies of water. In former times, greater one-horned rhinos roamed freely the floodplains and forests alongside the Brahmaputra, Ganges and Indus River valley. Nowadays only around 2,400 individuals are found in National Parks and Sanctuaries in India and Nepal
- In India, its population is currently restricted to natural populations in:
 - Assam: Kaziranga, Manas, Orang and Pabitora
 - West Bengal: Jaldapara and Gorumara
 - one re-introduced population in Dudhwa NP
 - and one migratory population in Katarniaghat in Uttar Pradesh
- In Nepal, the three rhino populations are found in Royal Chitwan NP, Royal Bardia NP and Sukhlaphanta WLS. The rhinos of the Royal Chitwan NP are a natural population while Royal Bardia NP and Sukhlaphanta WLS have a re-introduced population
- Kaziranga National Park in Assam (India) has the highest population of rhino (about 1,600), followed by Royal Chitwan NP Nepal (about 372 rhinos). Pabitora WLS has 85 rhinos in 16 km² area

Social behaviour and breeding

- Greater one-horned rhinos are usually solitary, except for females with small calves. Males have loosely defined territories, which are well defended by the dominant male but can overlap with other territories. The territories change according to food availability, i.e. according to the season. The females can move in and out of these territories, as they like
- Male greater one-horned rhinos fight violently for these favourite places. It might happen that fights end with the death of one male (in general, the badly wounded animal dies days after the fight due to the inflicted wounds)
- If food is abundant, it is not unusual to see several animals all grazing close together
- Wallows can be places where several individuals meet. After wallowing they separate again. Wallowing helps thermo-regulation by preventing overheating. The mud, covering the animal body, serves as skin care
- In greater one-horned rhinos, 12 different communication sounds are known, which are frequently used
- The dung heaps serve as communication points. Several animals defecate at the same spot. Such a dung heap can become five metres wide and one metre high.

- After defecating, greater one-horned rhinos scratch their hind feet in the dung. By continuing to walk, they “transport” their own smell around the paths
- Greater one-horned rhinos tend to use the same path, which are marked by the secret from the gland of their feet, urine and dung
- Females are sexually mature at 5-7 years of age; males at 8-10 years. Their gestation period is approximately 16 months (465-490 days; interval taken from the experience of 30 births at Basel Zoo), and they give birth every three years. The birth weight ranges from 60-77 kg (Basel Zoo ranges). A calf drinks on average 20-30 litres of milk per day and grows by 1-2 kg daily. They start nibbling / feeding on roughage at the age of 3-5 months and continue to suckle up to the age of 20 months
- In the wild, youngsters are predated by tiger. Adults have no enemies other than humans

Under threat

- The biggest threat that greater one-horned rhinos face is human harassment / encroachment. Since centuries ago, rhinos were hunted for sport and for their horn. The horn is used in Asia as a medicine against fever and pain. In the early 19th century, the greater one-horned rhino was almost hunted to extinction. The remaining animals were only found in reserves
- With strict protection from Indian and Nepalese wildlife authorities, greater one-horned rhino numbers have recovered from under 200 in this century to around 2,400 today. However, poaching has remained high and the success is precarious without continued and increased support for conservation efforts in India and Nepal
- Poaching still remains the biggest threat to the rhino population. Recent counts in Nepal revealed that due to the political instability in Nepal, the rhino population in Chitwan NP decreased by 31% in the last five years (from 544 in 2000 to 372 in 2005). The lack of finance and control of anti-poaching measurements lead to a tremendous increase of poaching in recent years in Nepal. It is estimated that at least 94 animals were lost to poaching
- Apart from poaching, habitat destruction and loss are further threats to the rhinoceros population. As greater one-horned rhinos live in areas with very fertile soil, humans started to use the same land for their own existence. Conflicts between humans and animals are inevitable. The land used by greater one-horned rhinos is more and more used by humans and consequently fragmented, primarily for the extension of agriculture

For more information on the work of the greater one-horned rhino EEP, please refer to the CD-ROM, or visit the members’ area of the EAZA website (www.eaza.net).

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