

Sumatran rhinoceros



Name and species

- Common name: Sumatran rhino
- Synonyms: Asian two-horned rhino or the Hairy rhino
- Scientific name: *Dicerorhinus sumatrensis*, from the Greek “di”, meaning “two”, “cero”, meaning “horn” and “rhinos”, meaning “nose”; “sumatrensis”, from Sumatra

Physical characteristics

- Sumatran rhinos have a reddish-brown skin, in the wild variably covered with short bristly hair. In captivity the hair can grow out to a shaggy fur, because of less abrasion from vegetation. The ears edges have a prominent fringe of longer hairs, and the tail is terminate with a tuft of thicker hairs. There are two prominent folds in the skin circling the body behind the front legs and before the hind legs, and lesser folds on the neck and at the basis of the legs. The skin is rather thin, about 10-16 mm, and soft and pliable. Subcutaneous fat is absent in wild animals, but may occur in zoo specimens
- The Sumatran rhino is considered the most “primitive” rhino species, because of its hairy skin and other ancient characteristics. It is the closest relative alive of the famous woolly rhinoceros that lived in the frigid lands of Europe and Asia during the past ice-ages
- Sumatran rhinos are by far the smallest of the five living species of rhino. They weigh between 500-800 kilos, often more in captivity), stand 1.20-1.45 metres tall at the shoulder, and are about 2.50 metres long
- The head is 70-80 cm in length and the tails vary in length from 35-60 cm
- Sumatran rhinos have two horns, dark grey to black in colour. In the wild they are usually very smooth and form a slender cone that is curved backwards. The larger front (anterior) horn is typically 15-25 cm long, the smaller second (posterior) horn is normally much smaller, seldom more than a few cm in length, and often not more than an irregular knob
- The longest horn ever found was 81 cm long and is now in the British Museum in London. Rhino horn has the same horn structure as the hooves of horses and re-grows if broken off. It is not used for fighting, but for scraping mud from the sides of wallows, pulling down food plants, and for protection of the head and nose when breaking through dense vegetation
- Sumatran rhinos eat on average 50-60 kg (almost 1% of their body weight) of plant matter per day

- Sumatran rhinos have a prehensile upper lip, which assists in grasping their food.
- Sumatran rhinos, like all Asian rhinos, have long dagger-shaped lower incisor teeth. They are very sharp and are used in fighting and can inflict deep wounds. These teeth are lacking in the African rhino species
- To masticate the large quantities of coarse food, rhinos have two rows of six strong broad and low-crowned molars on each side. The teeth are fitted with strong ridges of enamel, which cut the woody parts in characteristic 1-2 cm long bits. Over the years the teeth wear down by several centimetres to become shallow dish-like structures, and old animals will have problems masticating their food, will lose condition, and may eventually die of undernourishment
- Sumatran rhinos are hind-gut fermenters (they use micro-organisms in the last part of the intestine to break down indigestible parts of the food) and have a large cavernous caecum and colon
- Sumatran rhinos are estimated to live an average of 30-45 years in the wild; while the longevity record for those in captivity is almost 33 years
- Sumatran rhinos have a good sense of smelling and hear very well, but are rather short sighted. When encountered in the forest, they usually run away and attacks on humans are very rare and probably mainly accidental because of the animal's limited eyesight
- Sumatran rhinos can run fast and are very agile. They climb mountains easily and can negotiate very steep slopes and riverbanks. With the protection provided by the horns and rims of hard skin and cartilage on nose and head, they can easily break through the densest vegetation, leaving round tunnels

Location and habitat

- The Sumatran rhino lives in dense tropical forest, both lowland and highland. The Sumatran rhino is a browser with a very varied diet consisting of the great diversity of the plant species in tropical forest. The list of species that have been recorded as food for Sumatran Rhinos is several 100s long, but does not include wild bananas, or grasses and sedges. They eat the tips of plants growing on the forest floor, browse the leaves from sapling trees that they break to reach the crown and pull climbers from trees. They feed in primary forest, but mostly in small patches of more juicy secondary vegetation created by landslides, tree falls and along river banks. They are also fond of fruits fallen from the forest trees
- Sumatran rhinos are very well adapted to the life in the very dense tropical forests of Southeast Asia. In former times, Sumatran rhinos roamed freely from the foothills of the Himalayas in Bhutan and India through Myanmar, Thailand, Malaysia, Sumatra and Borneo. Its presence in the eastern states of Southeast Asia (Laos, Cambodia and Vietnam) has not been confirmed, though there are several unconfirmed reports from these states
- Currently only about 300 Sumatran rhinos survive in small populations in Sumatra, peninsular Malaysia and in Sabah (northern Borneo). Scattered remnants are reported in remote and inaccessible parts of Thailand and Myanmar

- In Sumatra about 200 Sumatran rhinos are found in three main populations, the largest being the Bukit Barisan Selatan and Gunung Leuser National Parks
- In Peninsula Malaysia currently about 75 Sumatran rhino survive, mainly in four areas, the larger of this being the Taman Negara National Park
- In Sabah about 25 remain in Tabin Wildlife Reserve and one or two other areas
- Sumatran rhinos spend a large part of the day wallowing in mud holes. They may use temporary pools and puddles which they deepen with the feet and horn. In mountain areas good places for wallows are scarce and some are used repeatedly for a very long term, and eventually become characteristic holes dug in several meters into a slope. The access to mud wallows is essential for thermo-regulation, skin condition and to get rid of ectoparasites and biting insects

Social behaviour and breeding

- Sumatran rhinos are usually solitary, except for females with small calves, and during a short period of courtship around the time a female is in oestrous. Males have large territories (up to 50 km²), which overlap with other males' territories. There is no indication that these territories are actually defended by territorial fights as happens in other rhino species, but they are marked along the main trails by urine, faeces, scrapes and twisted saplings. The females' much smaller ranges (10-15 km²) appear to be quite well spaced, but overlap with male territories
- Salt-licks are an important component in most Sumatran rhino areas, although they are absent (or have not yet been found!) in some areas. Salt-licks are usually small hot springs, seepages of mineral rich water or so-called "mud volcanoes". Each rhino has a favourite salt-lick that is visited once every one or two months, but much more often when a female is with a calf. Wildlife trails lead from all directions to these places, and other animals like elephants, tiger, orangutans, deer, etc. come there to get a supplement of scarce minerals. Salt-licks appear to be important social focal points where males can pick up scent marks from oestrous females. Unfortunately the big trail leading to the salt-licks also attract poachers who place their traps and snares around the licks
- The Sumatran rhino is surprisingly vocal and communicates with many different sounds, mostly whistling or whining noises
- Dung heaps also serve as a communication point, though the large latrines common in the greater one-horned rhino do not occur, probably because of the much lower natural density of these animals. But when a Sumatran rhino meets a heap of dung, it usually triggers a fresh deposit nearby. After defecating, Sumatran rhinos, in particular males, scratch their hind feet in the dung and kick it around in the bushes. This probably serves to mark the feet and the tracks with the scent of the faeces. Foot glands, as for the Javan rhino, are most likely absent in the Sumatran rhino
- Sumatran rhinos tend to use a network of game trails that occur on all major ridges and along all major rivers. The trails are well defined and are kept open by the regular passage of the larger animals, especially rhinos and elephants.



- They are also marked by the secret from the gland of their feet, urine, dung, scrapes and twisted saplings. The rhinos use the trails to travel between feeding areas, salt-licks or seasonal movements where they occur
- Gestation period is approximately 15-16 months and in the wild they have a single calf, every 4-5 years. Female sexually mature at an estimated 6-7 years of age, about 10 years for the male. The birth weight is 40-50 kg. A calf drinks and grows 1-2 kg daily. They start nibbling from the food hanging from the mother's mouth at an early age to learn what plants are good to eat, and continue to suckle up to the age of 13-15 months
- In the wild calves may occasionally be preyed on by tiger or wild dogs, but when young they stay very close to the mother at all times, and it is believed that natural predation is insignificant. Adults have no enemies other than humans

Under threat

- The biggest threats for Sumatran rhinos are poaching for their horn and loss of habitat for development. The horn is used in Asia as a medicine against fever and pain and trade in rhino horn between Borneo and other source areas in SE Asia and China has been reported more than 2,000 years ago. Over the centuries, the Sumatran rhino had been exterminated over most of its range, though in many places suitable habitat remains. This continued until, in 1995, there were only about 300 left worldwide, largely in the places where they are still found today, all National Parks or Wildlife Reserves. Since then, the decline has stopped because of concentrated efforts of dedicated anti-poaching teams, called Rhino Protection Units (RPU's) in all major rhino areas
- With continued strict protection, of both the remaining rhinos and their habitat, over the next century the populations will eventually, hopefully, be able to recover to at least 2,000 to 2,500 individuals, as this number is determined by population biologists as a minimum requirement for long-term survival of the species
- Apart from poaching, habitat destruction and loss for agriculture and development are further threats to the rhinoceros populations. Though officially all rhino habitats are strictly protected by legislation, in practice many areas are subject to large-scale encroachment by poor and landless masses, while the National Park management usually does not have the means or the political support to counter this pillage. Habitat is still not a limiting factor overall, but some of the larger and better-protected rhino populations may face a shrinkage of available habitat in the near future
- Therefore re-establishment of Sumatran rhinos in areas where they have been exterminated is a vital component of the conservation strategy for this species

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