



This book was written in 1892. It is still the only book on Indian Zoo Management. Here is a very interesting excerpt on four (!) Asian rhinos.

### (164) THE INDIAN RHINOCEROS (RHINOCEROS UNICORNIS—Linn)

Hindi—*Genda*, *Genda*. Bengali—*Gandar*.

In this species the folds of the neck do not meet to form a saddle on the nape as in the next species, but curve backwards to join that on the shoulders; the base of the skull is broad; the hide, which is very thick and tough, is like an armour plate, and studded as it were with round-headed nails, especially at the folds. In adult specimens the upper lip is rounded off, but in young individuals it is produced to a point, which is particularly noticeable, as lately observed, while the animal is feeding, or in the act of seizing something. The ridge of the skull flat, and ears placed closer together than in the next species. There is no difference in the relative size of sexes,

but the horn is smaller in the female. It is the largest known species of the Asiatic rhinoceros.

*Hab*—At present the Indian rhinoceros is mostly confined to the Dooars to the east of the Teesta river, although specimens are now and then heard of or obtained from Nepal Terai and Assam. Formerly they had a wider range of distribution, ~~from Rohilkund to Assam~~ <sup>from the Himalayas and Ganges, and, according to Jerdon,</sup> from Rohilkund to Assam. Specimens are recorded from Purneah, Nepal Terai, Maldah, Gowhati (Assam).

### LENGTH OF LIFE IN CAPTIVITY

An adult female, which lived in this garden from 1878 to May 1880, had, previous to its arrival here, been living for upwards of fortyfive years in a private menagerie.

### (165) THE SONDAIC RHINOCEROS (RHINOCEROS SONDAICUS—Desm.)

The folds of the neck unite to form a distinct saddlelike plate on the nape; the upper lip is produced into a flexible point, which is semi-prehensile, as is best noticed when the animal is in the act of seizing a leaf or twig; ridge of the skull somewhat elevated between the ears, which are placed further apart than in the preceding species. Anteroposteriorly, the head is longer than in *R. unicornis*. The hide is characteristic, and cannot be mistaken for that of any other species; this peculiarity is due to the shape, size, and distribution of the tubercles. Except on the back, they are distributed all over the body, and are set closely together, the interspaces between them forming a net-work of narrow channels. There are no tubercles on the back, but the skin is irregularly cracked.

*Observations*—Some difference of opinion exists as to the relative size of this and the preceding species. As far as they have been observed here, the *R. unicornis* appears to be the larger animal of the two; a female of the *R. unicornis*, about eight years old, has been found to be larger than a female of *R. sondaicus* of more than seventeen years of age.

*Hab*—Sunderbuns, Assam, Burmah, extending through the Malayan peninsula to Sumatra, Java, and Borneo.

#### LENGTH OF LIFE IN CAPTIVITY.

An adult female has been living in the garden since 1887; this animal also lived for about ten years in the menagerie of the late King of Oudh.

#### (166) THE HAIRY-EARED RHINOCEROS

(RHINOCEROS LASIOTIS—*Sclater.*)

Horns two: the anterior one, which is the larger, is placed on the nostril; the posterior is placed between the eyes, about 3 inches apart from the former: it is small and conical in form. Ears thickly fringed with long drooping hair, which is the most characteristic feature of this species; the upper lip is produced to a blunt point; the skin smooth and without tubercles, of a brownish grey colour; the groin and creases formed by the folds are flesh-coloured; lower parts of the sides of the body thinly covered with brownish hairs, which are abundant and woolly in young individuals; height at the shoulder 4 feet 6 inches.

*Hab.*—Chittagong and Tipperah Hills, Assam, and Burmah. Only a single specimen (the third specimen living in captivity) has as yet been obtained from the latter country.

#### LENGTH OF LIFE IN CAPTIVITY

A female has been living in the garden since 1882.

#### (167) THE SUMATRAN RHINOCEROS (RHINOCEROS SUMATRENSIS—*Cuv.*)

Ears filled inside with short bristly hairs; margin not fringed with drooping hairs; the upper lip is almost rounded; the skin is coarse and dark, and the hairs short, bristly, and less abundant.

*Hab.*—The Malay peninsula and the islands of Sumatra, Java, and Borneo.

#### LENGTH OF LIFE IN CAPTIVITY

From 1882 to 1889.

*Observations.*—Zoologists are yet undecided as to whether these animals (*R. lasiotis* and *R. sumatrensis*) belong to different species, or are mere varieties of the same; and it would not, therefore, be out of place to indicate the several points of distinctions which these animals present in their external characters when examined side by side.

The hairy-eared rhinoceros is bulkier in form than the Sumatran species, and has much heavier fore-quarters; besides, an adult *lasiotis* stands higher at the shoulder than an adult *sumatrensis*. A young female *lasiotis* and a pair of adult *sumatrensis* were acquired in 1882, and it was observed after about a year that the former stood higher at the shoulder than the male *sumatrensis*.

The ears of the *lasiotis* are shorter and placed further apart than in *sumatrensis*; the skull of the former is broader, that of the latter narrow.

The tail of the *lasiotis* is shorter and well tufted; that of the *sumatrensis* longer and covered with scanty, bristly, and straggling hairs.

The skin of the nape of the *lasiotis* is smooth, that of the *sumatrensis* slightly corrugated. In the former the neck fold commences from behind and below the level of the ear and passes downward to meet its fellow of the opposite side, but does not form a pendulous knot below; in the *sumatrensis* the neck fold terminates in a pendulous knot at the front neck.

#### TREATMENT IN HEALTH.

*Housing.*—For the health, growth, and comfort of a rhinoceros, it must have water and mud to bathe and wallow in, ample shade to protect it from sun, and a large piece of dry ground as a promenade. An enclosure 230 feet long by 116 feet broad, with a tank 160 feet in length and 50 feet in breadth, well shaded by trees and clumps of bamboos, has been found to answer for a couple of pair of rhinoceroses. The fence may be built of iron rail uprights, about 5 feet high with 1 inch iron rods placed horizontally about 6 inches apart, or it may be surrounded by a strong brick wall about 3 feet high, with 2 feet of strong iron fencing built above and into it. Under ordinary circumstances, a rhinoceros does not require a shed or house in the climate but it is much better to anticipate emergencies and provide one; there may be exceptionally bad seasons, or an animal may require isolation and seclusion from sickness or other causes. Before placing two or more animals together, their temper and idiosyncracies should be watched; a pair of Sumatran rhinoceroses have been known to fight constantly with each other, the male generally being the aggressor. They had ultimately to be separated. This incompatibility of temper may

however, be accounted for by the weak state of the female's health ever since her arrival. On the other hand, a female *lasiotis* and a male *sumatrensis* agreed very well.

**Food**—In its wild state a rhinoceros feeds exclusively on leaves and branches of trees, and, like elephants, requires a large quantity to fill its stomach. Of all kinds, it appears to like the jack fruit leaves best, but they are costly, and sometime not procurable at all; the best substitute for these are the gulher (*Ficus glomerata*) leaves; it also feeds on other species of fig leaves, but it is better to restrict it to jack and gulher as much as possible. In captivity the leaf diet is usually supplemented by soaked gram and bran; they must have salt every day, and a small quantity of goor every now and then.

**Breeding**—On the 30th January 1889 a young hybrid (between *R. lasiotis* and *R. sumatrensis*) was born. Both the parents had been living in the garden since June 1882, and it is the second recorded instance of rhinoceroses breeding in captivity. On the evening of the 29th January the female (*R. lasiotis*) was noticed to be somewhat restless; she refused her usual rations of gram, bran and salt, though every now and then she browsed some leaves and branches. Early next morning, she was in acute labour pain, very restless and after intense suffering of nearly an hour, she suddenly got up and the young one was born.

The mother took no notice of the young one, which looked more like a lump of animated clay than a young rhino. After about an hour and a half, and not until after several ineffectual attempts, it got up at last and began to look for nourishment, but evidently did not know where to find it. It was weak and very unsteady in its movements, and could not walk three yards without tumbling. At 1 p.m. the mother was fed on oatmeal gruel, and the young one on a quart of cow's milk. At 4 p.m. the mother had her usual food consisting of soaked gram and leaves, but the calf receiving no nourishment yet from the mother was fed a second time on cow's milk about 6 p.m. and again about 10 p.m. at night. During the course of the night the young began sucking the mother, and henceforth there was no necessity for artificial nourishment. The young animal was now very lively and playful, and was already inclined to explore the enclosure, but as the banks of the tank were, in some places, steep and rugged, a temporary fencing

was erected to keep the mother and young one within bounds, and prevent the latter from tumbling down and injuring itself. Measures were taken to prevent visitors approaching near the enclosure, at the female evidently disliked being looked at by a crowd.

The body of the young animal at birth was covered with soft woolly hair; the skin was soft and of a pinkish brown colour, which is gradually becoming darker as the animal is growing, but still retains a pinkish suffusion. The growth and development of a young beast, bred and born in captivity, but suckled and reared by its mother, compare favourably with that of another, born in a wild state, but early weaned from its mother, and brought up under artificial conditions. The present young rhino is only two years and seven months old, but it has already attained such a development as to equal the mother in size and bulk. Its upper incisor teeth have not yet appeared and it is still now and then observed to seek nourishment from its mother.

**Transport**—A cage is indispensable for the conveyance of a rhino, young or adult; it must be made narrow, so as to prevent the animal turning round, but still broad enough to enable it to sit down; a strong plank cage, iron bound, should be preferred to one made of iron rods, as smoothness of the surface inside is desirable; the roof, and the upper part of the sides, about a foot deep, should be left open, with means of closing in bad weather; the back end of the cage should also have a space of about 6 inches left open below for cleaning; there must be sufficient opening at the front end of the cage to admit of the animal seeing everything and breathing open air; the feeding and drinking vessels being introduced through another opening below. A rhinoceros, intended for transport overland, should be habituated to hay and dry fodder. An attendant should always accompany such a valuable animal, especially if it is young.

#### TREATMENT IN SICKNESS

*Tetanus* has been known to cause the death of an adult female *R. unicornis*. An autopsy being held, the uterus was found to be very much enlarged, and its thickened and hardened wall pressing against the nerves of the surrounding parts. If the disease is early detected, the animal should be freely purged and kept quiet in a perfectly dark room; various remedies have been

suggested, but it is useless to mention any, as recovery can seldom be effected.

*Inflammation of the lungs* has been met with in a young *R. sondaicus*, the animal dying within twenty-four hours from the time of the development of the first symptoms.

*Tuberculosis* of the lungs and liver was found in an old *R. sumatrensis*; the animal must have contracted the disease long before its arrival as in spite of careful feeding it gradually declined.

#### OBSERVATIONS ON THE HABITS OF RHINOCEROSES

Some rhinoceroses have been found to be very tractable, especially those caught young and reared in captivity; but, like other wild animals, their temper can never be absolutely trusted. Of the four species of Asiatic rhinoceroses, the *R. lasiotis* appears to be the tamest. They are all more or less fond of water and mud, but both the two-horned species have been observed to evince much greater liking for them than either of the two one-horned animals; the latter have seldom

been found digging holes in the same way as these two-horned animals. The *R. sondaicus* now living in the garden has never yet been observed to wallow in the mud, and although it has ready access to a large sheet of water, it does not resort to it as frequently, except during very warm weather, as the habits of the genus lead us to expect. The highest bliss of the two-horned species, on the other hand, is to lie undisturbed in a muddy hollow or in water, and for this purpose they are constantly digging new holes or undermining the banks of the tank, which at times have to be protected by piles and brickbats. They loosen the earth with the anterior horn, scraping and throwing it back with the fore feet, sometimes beating the lumps down to convert them into a soft ooze which they so much enjoy. They remain so quiet and still and thoroughly smeared with this liquid mud that it is sometimes difficult to detect their presence. When hungry and food is not forthcoming, the two-horned rhinoceroses call for it with a monotonous wailing whine; compared with the size, their voice is weak.



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