

NATURAL HISTORY

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Order PERISSODACTYLA (Rhinoceroses, Tapirs and Horses)

Although provided with "hoofs" like the Artiodactyla, the members of this order differ from them in being "odd-toed," the third digit being in the middle of the foot and symmetrically flanked by the second and fourth when these are present. There are other anatomical differences in the skeleton, and the intestine has a large saccular dilatation, the caecum. They appear to have been evolved from a different primitive type of mammal, their stock being the same as that from which the elephants and several other orders, described later, arose.

Family Rhinocerotidae (*Rhinoceroses*)

The Rhinoceroses are superficially so unlike Horses that no one would suppose them to be related. They are huge, ungainly, digitigrade beasts, the feet being broad and compact, composed of three equal toes, and provided with a horny sole; the limbs are short and stout; the hide is thick, at most scantily covered with hairs; the head is large, with a concave forehead, and the muzzle carries one or two horns, which grow through life and are composed of consolidated dermal fibres without a bony core. In the dentition the incisors are variable but are never more than six in number, above and below, and are not used for biting; the canines are absent and the six large cheek teeth are much less complicated in their ridges and loops of enamel than those of horses.

Rhinoceroses are now found in tropical Asia, from India to Borneo, and in East and South Africa. Their habits vary in details according to the species, but, being exclusively vegetarian in diet, and of great size, they must live where there is abundance of food, foliage, grasses and the like, and water. They are not gregarious, like the Equidae, at most two or three being usually found together. They have, therefore, no need of a loud call to keep a herd together, the voice being merely a grunt, snort or squeal, uttered under the stimulus of fear or anger. They have the reputation of being dull-witted creatures, with poor eye-sight but acute hearing and smell. When wounded or cornered, they will charge blindly at an assailant; but on the whole they are timid and inoffensive and prefer escape to fighting. Despite their size and bulk they can travel at considerable speed and there is something peculiarly horse-like in their swinging gallop. The single young one which is born at a time is able to follow its mother soon after birth.

The Asiatic species, three in number, differ in several important respects from the two African species, especially in possessing a pair of tusk-like incisor teeth in the upper and lower jaws. The lower projects forward on each side of the front of the mouth and is kept sharp by grinding against the upper. This tusk, not the horn, is the animal's weapon when charging and it is capable of inflicting a severe gash. For the lodgment of the upper tusk, the bone that carries it is comparatively large. Also the skin of the

MAMMALIA (ORDER PERISSODACTYLA)

Asiatic species is thicker and to facilitate movement is jointed or creased where the limbs and neck are attached to the body.

Indian One-horned Rhinoceros. The best and longest-known species of the Asiatic group, referred to the genus *Rhinoceros*, is the large Indian One-horned Rhinoceros (*R. unicornis*), which, as its name indicates, has a single horn on the nose. The hide is very thick, hairless, studded with rounded tubercles and jointed by great folds on the neck, in front of the shoulder and behind it and also in front of the hips and above the legs, but the fold in front of the shoulder does not pass over the back part of the neck. The height at the shoulder of a good specimen may be five feet or over but is usually about five feet six inches, and the weight is about four thousand pounds. The horn, which in wild specimens is present and equally long in the two sexes, is usually less than one and a half feet over the front curve, the record being two feet, with the basal circumference about the same; but in captive specimens it is frequently reduced to a mere stump by rubbing against the bars and walls of cages. Although at one time widely distributed in India, this Rhinoceros is now restricted to Nepal, Bhutan and Assam. It lives in the thick jungles of the alluvial plains, frequently in marshy places and is partial to wallowing in the mud.

Lesser One-horned Rhinoceros. Related to the last, but differing from it superficially in the mosaic pattern of fine scratches on the skin (which also lacks the tubercles), by the extension of the neck fold over the back, by its lighter build, and by its smaller head, is the Lesser One-horned Rhinoceros (*R. sondaicus*), sometimes but very inappropriately called the Javan Rhinoceros. In actual height, there seems to be little to choose between the two; but the male of this species has a comparatively small horn, seldom over ten inches along the curve, whereas the female is nearly or quite hornless. This species ranged from the Sanderbans of Bengal through Burma and the Malay Peninsula to Java. But its habitat is more varied than that of its larger ally, since, in addition to the swampy Sanderbans, it frequents forests, sometimes at considerable altitudes. It is now almost extinct.

Sumatran or Asiatic Two-horned Rhinoceros (Ceratorhinus sumatrensis). This differs from both the preceding species in having, as its name indicates, two horns, a larger in front and a smaller behind. Its skin, moreover, is covered, although not thickly, with coarse hair and is less jointed, having but one complete fold behind the shoulder. The size is comparatively small, the standing height being only up to about four and a half feet and the weight two thousand pounds. The front horn is occasionally over two feet six inches, but usually it is only about one foot over the curve, whereas the back horn is commonly from about three to six inches. The habits appear to be similar to those of the Javan Rhinoceros. This is a very widely-ranging species, extending from Bhutan to Assam through the Malay Peninsula to Sumatra and Borneo, but not occurring in Java. A few local



AFRICAN BLACK RHINOCEROS.

[Major A. Radclyffe Dugmore.]

Rhinoceroses are now found in tropical Asia, from India to Borneo, and in East and South Africa. They are exclusively vegetarian in diet.

MAMMALIA (ORDER PERISSODACTYLA)

aces have been described, but the differences between them are too trivial to notice.

African Rhinoceroses. The two African species, both of which are two-horned, differ from the Asiatic in having no incisor teeth in either jaw. This defect has reacted on the jaws, the lower being shorter in front and the premaxillary bones of the upper small and functionless. Thus deprived of tusks for defence, these animals depend upon their horns, which are larger than in the Asiatic species, and to give support to the front horn, the principal weapon, the nasal bones which support it are much broader and rounder at the end. The skin, moreover, is sufficiently thin to dispense with the conspicuous jointed folds observable in the Asiatic species. On



SUMATRAN TWO HORNED ASIATIC RHINOCEROS (*James's Prass. (eratiorhinus sumatrensis)*)

In this rhinoceros the skin is covered, although not thickly, with coarse hair, and is less jointed than in the Indian species.

account of these differences, the African species are referred to a distinct genus *Diceros*.

Although both are of nearly the same dark leaden hue, they are popularly called the Black and White Rhinoceroses.

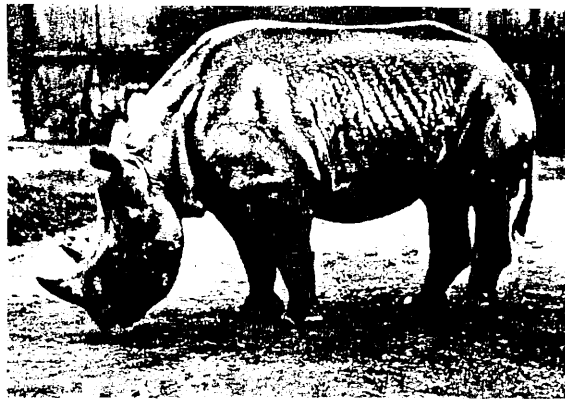
Black Rhinoceros (D. bicornis). This is the commoner and better known of the two and may be at once distinguished by the pointed, prehensile

upper lip, narrower ears and the position of the eye, which is more under the back horn. The usual height is between five and six feet; but the recorded weight of a specimen which scaled rather less than three thousand pounds, indicates a more lightly-built animal than the big Indian Rhinoceros. The front horn varies in length from less than two feet, to over four feet and is sometimes thin and almost blade-like from wear. The back horn is occasionally almost as long as the front, but is usually considerably shorter.

The Black Rhinoceros lives in the open plains of Africa, from Abyssinia southwards. It was formerly plentiful in Cape Colony, but has been for the most part killed out in districts to the south of the Zambesi. It feeds, for the most part, on scrub, using its upper lip to pluck the foliage. It is the swiftest and generally the most active of all Rhinoceroses, and consequently the most dangerous when provoked to charge. It carries its head high when on the move; and the calf follows at the heels of its mother.

WHITE RHINOCEROS (*DICEROS SIMUS*)

White Rhinoceros (*D. simus*). This is distinguished from all other Rhinoceroses by its square-cut upper lip, lacking the prehensile lobe. It also has the head relatively larger than in the Black, the ears more spread and the eye farther back in relation to the hinder horn. It stands as much as six and a half feet in height and is the largest land mammal next to the Elephant and Giraffe.



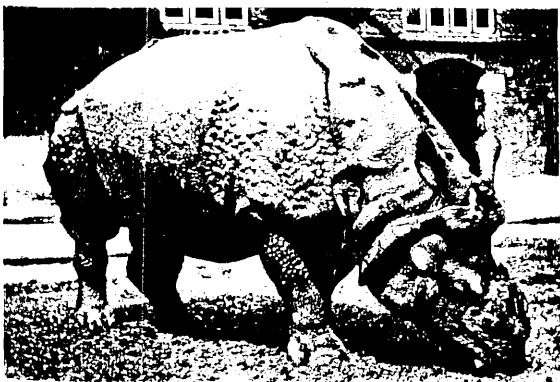
[Photopress.]
AFRICAN BLACK RHINOCEROS (*Diceros bicornis*).
There are two species of African Rhino, called popularly, the Black and the White, both of which carry two horns.

The horns vary much in length, the front one being usually about three feet, but sometimes as much as five feet; the rear horn is usually about half the length of the other.

In times past, this Rhinoceros may have spread through East Africa from the Soudan to the Orange River. But it has only been found in the region of the Upper Nile and between the Zambesi and Orange Rivers. In South Africa it was almost exterminated by the end of the last century, the sole survivors being a few individuals in the Umfulosi Reserve, Zululand. The existence of the species near the source of the Nile and Wele River was a comparatively recent and unexpected discovery. Less alert and slower in movement than the Black, it is easily killed, even with spears, and the final extinction of the species, unless rigorously protected, will probably soon be accomplished.

Unlike the Black Rhinoceros, which is a browser, the white species is a

grazer, as the shape of the upper lip indicates. It generally frequents fairly open country, but may be found in heavily-timbered bush. When on the move, the animal carries its head low; by reason of its great weight, with the muzzle close to the ground; and the calf is said to precede the mother, guided by her forwardly-directed long horn. In colour, the "white" Rhinoceros is a light, dirty brown.



[Underwood.]
INDIAN ONE-HORNED RHINOCEROS (*R. unicornis*).
In captive specimens the horn is frequently reduced to a mere stump by rubbing against the bars and walls of cages.