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parts ; the trunk is also much shorter than in the adult, and the coat so close that the little animal looks as if painted. Young American Tapirs are also like this, though the adults are utterly unlike our species in their colour, which is brown.

The Tapir has a well-developed set of incisors in both jaws, like the horses, but the teeth are mostly smaller, and have not the " mark " on the crown. The outer upper pair are canine-like, and indeed

Malayan Tapir.

bigger than the small canines. The grinders are tubercled, more like primate than ungulate teeth.

The Tapir is a shy forest animal, fond of water, and feeding on succulent vegetation. It is easily tamed, but not very common in captivity ; in fact, no Tapir is abundant, nor have any ever been so, judging by the rarity of fossil remains. Yet this family have a wider range over the globe than the more active and abundant horses. Their feet are particularly interesting as showing a stage through which ancestral horses passed. The coloration also, although so different in the young and adult states, is protective in both cases, in our species at least, for the young animal is said to be invisible when lying down in cover in the hot hours, its spots on the dark background simulating sun-flecks, while the adult, when living near rocky streams, is similarly protected by resembling when in repose a grey boulder. The animal is fond of water, and is said to be able to walk along the bottom when out of its depth.

The Rhinoceroses (*Rhinocerotidæ*) are the only mammals with three toes on all feet. They are large—generally huge—beasts with naked or very sparsely hairy skins, long bulky bodies, short legs—in which the joints are placed as in ordinary quadrupeds, not as in elephants—and large heads on short necks, the profile being concave or " dished " till the nose is reached, which is decidedly arched, and ends in a lip pointed in all our species. The eyes are small, and the ears oval and moderate. The three hoofs of the feet do not support the whole weight, which rests in part on a pad behind them. The tail is thin and short. The skin in all our species—but not in the African two—is thrown into more or less marked folds.

What has given these animals celebrity, however, is the horn—or pair of horns—if one can speak of a pair when the two horns, when present, are set tandem fashion, not abreast as in other two-horned animals.

The single horn is always on the bulged bones of the nose, as is the first of two, the second being on the forehead about above the eye. These are the only horns which are genuinely horny all through, those of cattle, antelopes, etc., being composed of a bony core with a mere plating of horn, like claws and hoofs, while the horns of deer are pure bone.

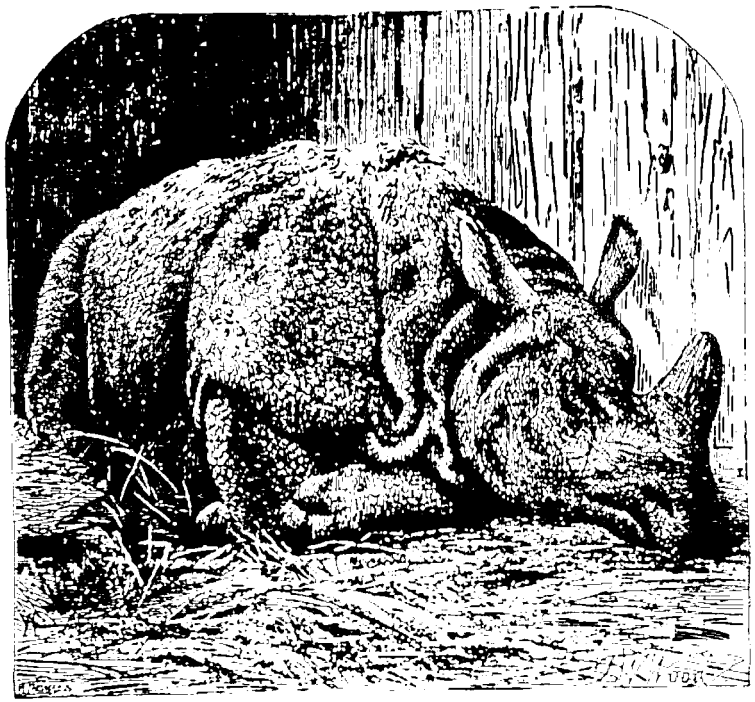
This " genuineness " of the rhinoceroses' horns may have been the reason why the horns were so much esteemed in olden times for the manufacture of drinking-cups, the legend being that any poison poured therein would split them. The Chinese still value them as medicine, and Indians consider the urine medicinal.

This idea has had some effect in reducing the numbers of these animals in Asia at any rate ; while their flesh is also good eating and their thick hide was much used for shields, being capable of turning even a bullet when dried, though not on the living animal when fired at direct.

In any case, however, they are solitary and not conspicuous with us even where they do occur, frequenting high grass or forest, where they feed on the local vegetation, and being silent animals. They are fond of water and of wallowing in mud ; and although so unwieldy can trot and even gallop freely.

Their grinders are well developed, but the teeth in the fore-part of the jaws deficient ; but in the lower jaws there are in our species two short sharp tusks variously regarded as canines or outer incisors, which are used in attack. Our three species are easily distinguished by the special characters of their skins, of which the two main folds, common to all, are found, one behind the shoulder, and the other in front of the haunch. They have one young at a

birth, but estimates of the gestation period vary, from over to under a year.



Great One-horned Rhinoceros.

GREAT ONE-HORNED RHINOCEROS

OTHER NAMES.—Scientific: *Rhinoceros unicornis*. Native: *Gainda*, *Genra*, *Gargadan*, Hindi; *Gonda*, Bengali; *Gor*, Assamese.

HABITAT.—Low country of Assam. The distribution has long been in process of reduction; in the nineteenth century the animal extended along the Terai to Nepal and Sikkim, and in the sixteenth ranged even to Peshawar according to the Emperor Baber, who, like so many of our own soldiers of repute, was an excellent practical naturalist.

DESCRIPTION.—The largest of our rhinoceroses and the fourth largest land mammal, the other three being the African and Indian

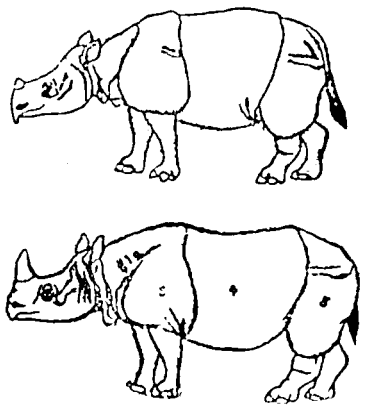
elephants and the African Square-lipped or "White" Rhinoceros. The record height at the shoulder is 5 ft. 9 in., but the horn rarely exceeds 1 ft. There is no difference in its length, or indeed any other obvious difference, in the two sexes. Skin very strongly tubercled and thrown into heavy folds, which form collars round the throat, the last of which is deepest and forms a conspicuous horizontal dewlap in front of the chest; on the shoulder a fold runs back from a fold which crosses the nape, but dies away before it reaches the shoulder-fold. Colour of skin slate; it only bears hair on the ears and tail.

The great Indian rhinoceros, now so sadly restricted in range, is the most celebrated of all, the single horn and mailed appearance of the skin having much impressed the ancients, who did not know much of the other species. It lives chiefly in grass jungle, where the height of its cover secures it from observation. It is believed to be a grass-feeder, and to live for a hundred years—at any rate it has lived for about half that time in captivity, more than once. A pair lived forty-five years in the Barrackpore Park, and Blanford cites fifty or sixty years. The only voice of the beast recorded is a grunt. It has a curious habit of forming piles of dung by depositing it in the same spot, and in captivity has a trick of grinding its horn down flat against any available hard surface.

Old writers made much of the supposed enmity of the rhinoceros to the elephant, and elephants themselves believe in it still, and so do their mahouts. Blanford says the animal is quiet and harmless as a rule, but it is quite possible that it has not always been so, since it is obvious that in animals capable of inflicting harm those that are also willing and anxious to do so are most likely to come into conflict with man and be killed off, which must in time have its effect on the race. Elephants, we know, are very nervous, but if any wild animals were inclined to attack them it would be a "rogue" rhinoceros, if such existed or still exist, since they are the most obvious rivals. In any case this fine beast should never be shot now unless it shows vice or on the rare occasion of a royal visit, for which it is worthy game. It could quite possibly be domesticated and used for haulage or ploughing; the editor when in India heard of one which was used as a pack-animal to carry a rajah's ladies' attire to be washed, and the old rulers of India used to put rhinoceroses into the battlefield with iron tridents fastened to their horns, a use which implies some amount of discipline.

All rhinoceroses, however, are rare in captivity; in seven years in India the editor, though constantly in touch with Calcutta dealers, never saw one on sale. Not only their scarcity, but the fact that, compared with the elephant, they are a poor show and of little use.

accounts for this and for their high price, governed by the small demand.



Outlines of Burmese Rhinoceros (above) and Indian Rhinoceros (below) to show difference in skin-folds.

BURMESE OR LESSER ONE-HORNED RHINOCEROS

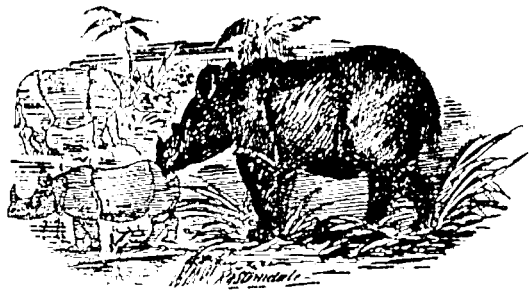
OTHER NAMES.—Scientific: *Rhinoceros sondaicus*. Native: *Gainda*, Hindi; *Kyeng*, *Kyan-tsheng*, Burmese; *Kunda*, *Kedi*, *Kweda*, Nága; *Bádák*, Malay.

HABITAT.—Locally from the Sundarbans east to Borneo, and except, of course, in the first-named locality, on hilly ground up to perhaps 7,000 ft.

DESCRIPTION.—The name Lesser One-horned Rhinoceros is not very appropriate, as the difference in size is not apparently very great, a specimen of the present animal of 5 ft. 6 in. high being on record; while Blanford, though saying its head is much smaller than that of the last, gives the same basal length—23 in.—to the skulls of both, while assigning less than 2 in. difference in width, though breadth of skull is, as he notes, a variable character in rhinoceroses.

Skin tessellated, but not tubercular, and showing a little hair on the upper parts; throat-fold before the shoulder not hanging below the anterior ones, and folds generally less heavy. Fold proceeding from the nape-fold running nearly straight up and forming a second nape-fold, just before the shoulder, so that the nape-skin is bounded by folds at each end. Colour of skin as in the last; horn shorter,

This rhinoceros, which may just as well be called Burman as Javan—so many Indian animals having Burman representatives—is not only different in haunts and food from the last, but is said to be more gentle in disposition; not much, however, is on record about it, though it is so much more widely distributed than the other.



Hairy Two-horned Rhinoceros. In distance Burmese Rhinoceros (above) and Indian Rhinoceros (below).

HAIRY TWO-HORNED RHINOCEROS

OTHER NAMES.—Scientific: *Rhinoceros sumatrensis*, *lasiotis*. Native: *Kyan-shaw*, Burmese; *Bádák*, Malay.

HABITAT.—Tipperah east and south to Siam and Borneo; rare in Assam.

DESCRIPTION.—Considerably smaller than any other rhinoceros, barely reaching 4 ft. 6 in. at the shoulder; but the first of the two horns this species possess is far longer than the horns of our others, reaching 32 in. The second horn is quite short. Skin with a thin coat of hair something like a buffalo's, the ears and tail particularly hairy; skin-folds not so well marked as in the other species, and that before the haunches dying out before it reaches the back. Colour of skin some shade of brown, with the hair either brown or black. The amount of hair is also variable, the so-called Hairy-eared or Ear-fringed Rhinoceros, once regarded as a species, being merely an especially hairy and reddish variety.

The Hairy Rhinoceros is particularly interesting, as exhibiting some remains of the full coat which invested the Woolly Northern Rhinoceros of the Stone Age, and also as forming a link between the other Asiatic species and the smooth-skinned, two-horned African kinds.

Like the last species, it is a forest animal and goes some distance

up the hills. The type of the Hairy-eared variety was caught in Chittagong in 1868 owing to getting bogged in a quicksand. It was noticed that when approached by elephants when tied up she roared with fright, and when conducted to a river could not swim, but only paddle enough to keep her head above water, so that she had to be towed. Anderson, however, heard of a rhinoceros being seen swimming in the sea in the Mergui Archipelago. The Chittagong rhinoceros above alluded to made the record price for a wild animal, the London Zoological Society having paid £1,250 for her.

Mason says the Karens are afraid of a "fire-eating" Rhinoceros, the animal being supposed to attack fire. Blanford doubts this, but Mason quotes an African author on the propensity of one of the African species to do so. Rhinoceroses have poor sight, but good hearing, and their scent is keen. They are touchy animals in some cases, and there would be nothing more wonderful in such a beast charging on the scent of fire and glare than in most mammals being scared by these; reaction to a strange stimulus need not necessarily be the same in all.

Of the even-toed ungulates we have, counting the domesticated camel, five families:

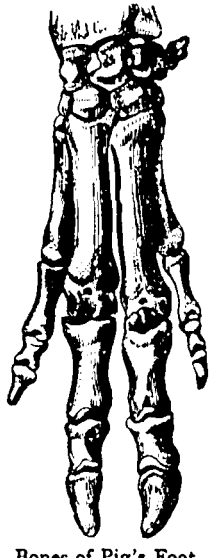
The Pigs (*Suidæ*) differ from all our other hoofed mammals in their long conical snout terminating in a vertical disk in which the nostrils are pierced; the Camels (*Camelidæ*) in having two toes only, padded rather than hoofed, the two small back ones being absent.

The Chevrotains or Mouse-deer (*Tragulidæ*) are like tiny hornless deer, not reaching a yard in total length, but have the mouth more deeply cleft than in deer, approaching the carnivores in this respect. All our other even-toed ungulates are over a yard in length.

Of these, the Hollow-horned Ruminants (*Bovidæ*) are distinguished, in the case of the males and of most females, by having horns consisting of a bony core encased in a horny sheath. Oxen, goats, sheep, and antelopes belong to this group, the most varied of all mammalian families.

In the Deer (*Cervidæ*) the males, except the Musk-deer, distinguished by his long tusks, have in all our species branched horns (properly called antlers) which really have no horn in them at all, but are, as above remarked, pure bone; they are also not permanent, but shed and renewed regularly. Female deer cannot be distinguished by any general character from hornless female antelopes, but only by knowledge of the particular species; however, as no one has any business to be shooting either, this does not matter so much. Possibly the two families ought really to be united.

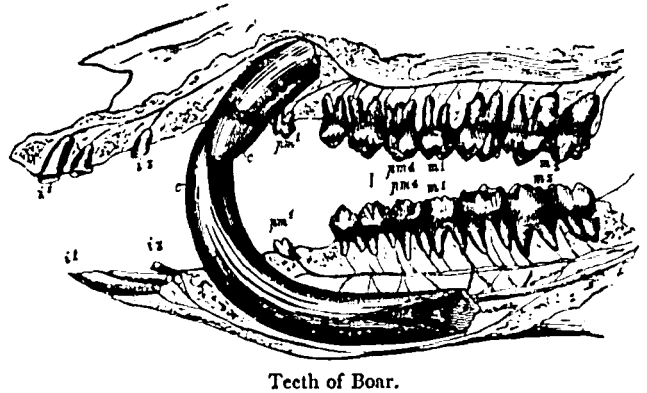
Pigs (*Suidæ*) are among the most distinct of animals in appearance; in addition to the peculiarity of their snouts above-mentioned, their heads are large, their eyes and ears small, their necks very short, their bodies heavy and their legs comparatively small. The back hoofs are better developed than in most of the even-toed group, and in all the feet all the foot-bones are perfect and separate, as in mammals with paws. The mouth is deeply cleft as in carnivores.



Bones of Pig's Foot.

Pigs have also a full set of teeth; the lower incisors are peculiar in projecting forwards, and the canines in the males project out of the mouth as tusks, the upper as well as the lower pair inclining upwards. These teeth grow continually like the incisors of rodents, and are so placed as to wear each other to an edge, being used in attack for ripping. The short-tusked sows bite like most other mammals, a rare action in even-toed ungulates.

The grinders are adapted for more or less succulent food, rather like our own, and not so much for consuming harsh grass and twigs. Pigs, as all know, are omnivorous, and freely eat any animal food they can get, while in their vegetable diet, though eating grass, herbs, and shoots, they show a strong liking for such articles as roots and fruits both hard and soft. In fact, their diet is practically the same



Teeth of Boar.

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