



THE WORLD OF SCIENCE.



RHINOCEROS HORN.

By MAURICE BURTON, D.Sc.

although a century ago it was found in large numbers on the African plains. To-day, to a protected herd of some zoo in Zululand, there has been added another

IT is a question often asked, why a rhinoceros in a zoo should have such an apology for a horn—or horns—as compared with the photographs one sees of this same beast in the wild. Or compared with the records, for that matter, the longest rhinoceros horns known measuring 5 ft. 2½ ins. for a white rhinoceros and 5 ft. 3½ ins. for the black rhinoceros. It is not, as is sometimes suggested, that the horn is artificially removed, to make the great beast less dangerous to its keepers, though from photographs seen from time to time, taken in other zoos than here, this seems a possibility. Rather is it that the animal itself gets rid of it by rubbing it against any convenient solid object. At least, that seems to be the case, though I must confess that whenever I have seen the rhino in a zoo it seems to be just standing doing nothing, looking fairly bored, in fact.

In the wild, rhinoceroses polish their horns fairly frequently, the mud columns of anthills being favourite places for this purpose. Certainly, all the trophies one sees are beautifully polished, except at the base. There the true character of the horn can be seen. It must be common knowledge that rhino horn is not true horn, but a mass of agglutinated hair. Its polished parts look anything but this, more like highly polished wood or bone, but at the base its substance frays out into stout hairs. In addition to the highly-polished surface, most rhino horns are distinctly flattened along the leading surface. It is necessary to say most are flattened, because some carry two horns, in which case only the front member of the pair has this flattened surface.

There are five species of rhinoceros to-day. Three are in Asia and two in Africa, the latter being distinguished from the Asiatic rhinoceroses by the absence of deep folds in the skin. The largest of the Asiatic group is the Great Indian rhinoceros (*Rhinoceros unicornis*), reaching 6 ft. 4 ins. at the shoulder and 14 ft. long, with its body apparently covered with armour-plate, the tubercles which coat the skin looking like the flat heads of large nails. In spite of its bulk, it has but a single horn, up to 2 ft. long. The Sumatran rhinoceros (*R. sumatrensis*) is only 4½ ft. high, has two short horns, the longest, in front, being only 1 ft. long, and its skin is more smooth and hairy than either the Indian or the Javan rhinoceros. The latter (*R. sondaicus*) is marked with a mosaic of fine cracks in the skin, and the male only has horns, the longest known being 5½ ins. It stands 5½ ft. high. All three Asiatic species are very much in danger of extinction, being hunted particularly for the horn, for which high prices are still being paid. For some mysterious reason it is credited with unusual medicinal properties. That has little interest here, except that it leads to illegal killing, in spite of protection. The Indian rhinoceros, for example, formerly widespread, survives now only in the deep jungles of Nepal, Bengal and Assam. The Javan rhinoceros, once found over Bengal and the whole of South-Eastern Asia, including Java and Sumatra, has been almost shot out of existence. The last estimate of their numbers, in 1937, was sixty-six. The Sumatran rhinoceros, though more numerous than the Javan, is, however, everywhere decreasing.

The history of the African rhinoceroses is almost as bad. The white or square-lipped rhinoceros (*Ceratotherium simum*), as large as or slightly larger than the great Indian rhinoceros, was almost wiped out,



AFRICAN BLACK RHINOCEROS AT THE LONDON ZOO, SHOWING MERE STUMPS OF HORNS WHICH, IN THE WILD ANIMAL, HAVE BEEN KNOWN TO EXCEED 5 FT. IN LENGTH. [Photograph by Neave Parker.]



HORNS OF THE AFRICAN WHITE RHINOCEROS MOUNTED AS TROPHIES. THE LONGEST, ON THE LEFT, EXCEEDS 3 FT. IN LENGTH. IN THIS PHOTOGRAPH THE HIGH POLISH ACQUIRED BY THE HORNS IS CLEARLY SEEN, AS WELL AS THE FLATTENING OF THE LEADING SURFACE. IN THE SPECIMEN ON THE LEFT PARTICULARLY, THE BASE SHOWS THE FRAYED SUBSTANCE OF THE HORN, REVEALING THAT IT IS A MASS OF AGGLUTINATED HAIR. Photograph by Maurice G. Sawyers. By permission of the Trustees of the British Museum (Natural History).

colony discovered some forty years or so ago, in the Lado Enclave, and this has been able, through protection, to increase its range. The black or hook-lipped rhinoceros (*Diceros bicornis*), about the size of the Javan rhinoceros, enjoys a much wider range, and is apt at times to be something of a public nuisance.

We have now a picture of five species of heavily-built animals, armed with vicious-looking, sabre-like horns, fearsome enough, whether 6 ins. long or 5 ft. long, when backed by a fair turn of speed and up to 3 or 4 tons' weight, in the case of the larger forms. Yet they are everywhere on the decline. Of course, the introduction of firearms is the obvious answer. Even so, the position cannot be so simply explained, for there is the anomaly that they had virtually no natural enemies and, what is the more striking, apart from the aggressive black rhinoceros, all are normally inoffensive and prefer to seek cover. One is tempted to raise the question: why the horns? It seems to be more obviously the case here, than in some other of the large animals, that the horns are used in defence and offence merely because they happen to be there. And their being there, on the snout of the rhinoceros, is just one of those natural accidents. It is, in other words, far from the case that a rhinoceros has a horn (or two horns) in order to defend itself, as is so often said. In any case, the female Javan rhino has no horns at all. One begins to wonder, therefore, whether this fearsome, sabre-like weapon—which can, indeed, be used as a weapon—is not primarily an accidental ornament.

It looks very much as if an animal, like a human being, fights with the nearest thing to hand. If it has horns it uses them. If not, it uses tusks. If it has neither horns nor tusks, it uses its hoofs, or its claws, or, in giraffes, the neck. Some even have horns or antlers, and yet fight with their feet.

What, then, of the habit of polishing it, even to the point of wearing it flat in front? It is by no means unreasonable to suggest, and there are other instances among the hoofed mammals to support this view, that there is something pleasurable to the animal in the habit. Although it is "dead" hair, the horn is clearly not without some feeling. For example, when travelling through the forest, the mother rhino is said to keep her horn on the offspring's back to guide it. The unanimity in their pace, and in the direction they take, shows the horn to be clearly a means of communication, however slight.

A zoo rhinoceros must be bored, and rubbing its horn would be something to do, so to speak; one of the few pleasurable occupations left to it. We might perhaps liken it to the human habit of twiddling the thumbs when there is nothing more useful to do. Or it may be the equivalent of tearing the hair in frustration. It may even be that in confinement the animal lacks some essential, perhaps a psychological or even dietetic factor, which manifests itself in this particular pastime. Whatever the explanation, the fact remains that a rhinoceros in captivity voluntarily sacrifices its matted tresses.

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