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MAMMALS WHICH HAVE RECENTLY BECOME EXTINCT AND THOSE ON THE VERGE OF EXTINCTION.

By CAPTAIN GUY DOLLMAN

Some cases of extermination among the mammalia are well known to the general public, such as, for instance, that of the Quagga and Blaaubok of South Africa. Other mammals have died out without much public notice, and amongst these may be numbered the Antarctic Wolf and Steller's Sea Cow, an extinct relation of the Dugong and Manatee. Similarly, considerable attention is now being given to the increasing scarcity of such animals as the Javan Rhinoceros and White Rhinoceros of South Africa, while there are a number of small marsupials and indigenous rodents of Australia which are rapidly approaching the verge of extinction without any protest being made.

The number of mammalian species which have become extinct during the last few hundred years is really surprisingly small, considering the destruction which has taken place since the introduction of fire-arms for hunting purposes, and one may number on the fingers of one hand the mammals which have utterly disappeared during this period. These are Steller's Sea Cow, the Blaaubok, the Antarctic Wolf, the Quagga, and the typical Burchell's Zebra. There are other species which may, or may not, still exist such as, for instance, certain of the smaller marsupials which have not been reported for some years and some rare rodents from the Far East.

Commencing with the mammals which have undoubtedly been exterminated during the period covered by this review, we find that Steller's Sea Cow (Rhytina stelleri) was exterminated through the agency of man during the eighteenth century. It was the largest of the Sirenia then existing and was classified as representing a family group, by itself, the Rhytinidæ, the genus Rhytina containing but a single species which was popularly known either as Steller's Sea Cow or the Northern Sea Cow. It was formerly an

inhabitant of the shores of Behring and Copper Islands in the North Pacific, and was discovered by Behring and Steller when they were wrecked on the island in 1741. Within a few years its numbers had been very greatly depleted and by 1768 it appears to have been exterminated. Its extinction was largely brought about by Russian hunters and traders who lived upon the flesh of this great Sirenian, and being a very easy animal to kill, owing to its inactive and fearless habits, it fell an easy victim to the wholesale slaughter which took place during these few years.

Only one species of the genus Rhytina is known, and this was an animal measuring from 20 to 25 feet in total length. It had a comparatively small head in proportion to the size of the body and the tail was furnished with two lateral pointed lobes. No teeth were developed, but strongly ridged horny plates appear to have taken their place. According to Steller's account the skin was of a dark brown colour, sometimes spotted and streaked with white. There can be little doubt that its nearest relatives, the Dugongs and Manatees, the only other existing members of the Sirenia, are in need of protection at the present day, since both animals are being killed-off wholesale for food purposes; this is especially true of the Manatees of the West African coast and the Dugongs around the coast of Tanganyika Territory and Mafia Island.

The Blaaubok (Hippotragus leucophæus) was a small member of the family Oryginæ, being a close relative of the Roan and Sable Antelopes. It resembled, in some respects, a small Roan Antelope, but with more slender horns and the colour of the body not so strongly contrasted. Further, the ears were untufted and the throat unfringed. In its distribution it was very local and appears to have occurred only in the province of Swellendan in the south-west of the Cape Province. Its extermination must be largely attributed to this very limited distribution, since being found nowhere else than in this Province it was impossible to replenish the supply once the original stock had been exterminated. The tragedy of the Blaaubok was that its life as a species was of such short duration, after the arrival of the white man in

South Africa, that it was hardly known to science before it was exterminated. In the early days of the eighteenth century the Blaaubok, or Blue Goat, was well known to the inhabitants of Swellendan, and it appears to have occurred there in very large numbers. By the middle of the century the species was becoming rare, and by 1781, according to Le Vaillant, the valley of Soete Melk was its last refuge. In 1800 the last survivors were shot and the species became extinct. Only five examples of this animal survive to-day, and these are preserved in the Museums of Paris, Stockholm, Upsala, Vienna, and Leyden, the Leyden specimen being the type originally described by Pallas. The height at the shoulder was approximately 45 inches, and the animal carried relatively long but slender horns; in the type specimen the horns measure $24\frac{2}{5}$ inches in length along the curve.

Had the same protection been afforded this species as was

Had the same protection been afforded this species as was at the eleventh hour extended to the Gnu, Bontebok, and Blesbok, we should still have this animal with us in a state of semi-domestication.

The Quagga (Equus quagga) was one of the most conspicuous animals of the fauna of South Africa when the white man first arrived, and of the countless thousands of Quaggas which then roamed the South African plains not one survived at the end of the nineteenth century. Its final extermination is believed to have been effected in 1860 or 1865, although some examples, kept in captivity, lived in Europe until 1872 and 1873. The destruction of the Quagga was almost entirely brought about by the Boers and the early settlers report that every hour of daylight was disturbed by the boom of the Dutchmen's guns. Its distribution was comparatively limited, as it does not seem to have crossed northwards of the Orange River, and the Kei River marked its eastern limit; the Quaggas reported as occurring in the Orange Free State would appear to have been Burchell's Zebras, a species which also went by the name of Quagga. Fifteen specimens of Quagga now remain in European and the Cape Town Museums. The specimen in the British Museum is a male, presented by Sir George Grey to the Zoological Society's Gardens in 1858,

where it died in 1864 and was then mounted for the Museum; it is in a fair state of preservation, and is still on exhibition in a dark corner of the West Corridor so as to preserve it as far as possible from the deleterious effects of daylight. The specimen in Berlin would appear to be the last Quagga to remain alive in the world, as it died at the Zoological Gardens in Berlin in 1875.

The Antarctic Wolf, or, as it might more rightly be called, "the Falkland Island Wild Dog" (Canis antarcticus), has been extinct since the year 1876, when the last specimen was killed in West Falkland. In East Falkland the animal was exterminated some years before. These dogs were exceedingly tame, and allowed themselves to be approached and attacked even in daylight, and vast numbers of their skins found their way into the market. The death-knell of these dogs was sounded when they turned their attention to the sheep which were introduced into the islands, and the farmers were forced to use poison to protect their flocks from the ravages of these bloodthirsty carnivores. Although small and foxlike, standing only about 15 inches at the shoulder, this species was a true dog as is shown by the structure of its skull, and was most nearly related to certain Neotropical Canidæ, such as Canis thous (= cancrivorus). The species was first discovered in 1690 and has been the subject of articles by Darwin, Hamilton Smith, Rupert Valentin, and R. I. Pocock. In 1836 Captain Fitzroy and Sir William Burnet obtained four specimens of this species, two of which were presented to the British Museum; there are also specimens in the Royal College of Surgeons and in the Leyden Museum.

Burchell's Zebra (Equus quagga burchelli) should be regarded more as a race than a species, and there are a number of allied races which are very generally spoken of as Burchell's Zebras. The typical Burchell's Zebra inhabited Griqualand West and was described by Dr. Gray in 1825. It used to exist in countless thousands, but all have long ago been swept away by the rifle, and even in the middle of the last century the species was already a rare one. In this race of Zebra, specimens of which exist in various museums, the

ground colour is orange and the shadow-stripes on the hindquarters are strongly marked and narrower than the main stripes, which are themselves broader than the light interspaces containing the shadow-stripes. The hind-quarters have only a few short stripes below the long dorsal stripe running to the root of the tail; the body stripes stop short on the flanks so as to be separated widely from the ventral stripe, and, with the occasional exception of a few stripes on the knees and hocks, the legs are devoid of stripes. Unfortunately the original specimen, brought home by Dr. Burchell and at one time preserved in the British Museum, was destroyed at a time when little attention was paid to the value of types. There is, however, another specimen in the National Collection, and there is also one in the Tring Museum and one in the Bristol Museum.

Having dealt with those mammals which are already undoubtedly extinct we pass on to those which are threatened with, or on the verge of, extinction, and here premier place should perhaps be given to the Bubal, or Northern Hartebeest, (Bubalis buselaphus), which some authorities regard as already an extinct species. This Hartebeest is the smallest member of the genus Bubalis, standing only about 3 ft. 7 in. at the shoulder, and it carries comparatively small horns mounted on a short pedicle and diverging into a U-shaped There is very little information regarding the distribution of this rare antelope; it would appear at one time to have inhabited the greater part of Northern Africa, being widely distributed over the desert areas. It has, however, disappeared from many of its former haunts, and may be regarded as one of the rarest animals in existence, if it does exist at all. There are reports that this antelope is still to be found in Southern Oran, and it may possibly be still existing in the mountains of Eastern Morocco, but so little information is available regarding its present distribution that it is little more than guesswork to say where the species still occurs. It is represented in the National collection by a mounted specimen presented by the Zoological Society in 1855, by a mounted head of a female presented by the Duke of Bedford, and three further specimens. At the recent conference on the Protection of the Fauna and Flora of Africa this species was considered sufficiently rare to be placed among the "A" list of the Annex, that is, it was granted as much protection as it was possible to give.

Of the five living species of Rhinoceros four are more or less threatened with extermination, and their existence to-day is largely due to protective measures having been taken on their behalf. In the case of one of these species, that is the Javan Rhinoceros (Rhinoceros sondaicus) we have a species so reduced in numbers that in the past few years most of the individual specimens still existing have become well known. At one time this animal enjoyed a wide distribution, ranging from Eastern Bengal through Assam and Burma to Siam and the Malay Peninsula, and penetrating to the islands of Java and Sumatra. A little inferior in size to the Indian species, the Javan Rhinoceros agrees with the latter animal in having only a single horn; this is never of large size, the record horn measuring only $10\frac{3}{4}$ inches in length. specimen is in the British Museum (Natural History), and was shot and presented by the late Marius Maxwell, who was unfortunately killed in a flying accident on 2nd November. The skin of the body of this species is thrown into great folds very much as in the Indian animal, and is marked all over with a kind of mosaic-like pattern which distinguishes it at a glance from the hairy or smooth skin of the Sumatran Rhinoceros and from the rivet-like markings on the skin of the Indian species. It is very difficult to estimate how many of these animals exist to-day; it is possible that the species still thrives in Sumatra, from where it was originally described, but after the slaughter which took place in the Island some years ago it is doubtful whether many remain alive. A few may still exist in West Java, and perhaps there are a few left in the Malay Peninsula; in the more northern part of the range of distribution the species would appear to have been exterminated many years ago.

The reason of this great scarcity is not difficult to ascertain. The horns of this and other species of rhinoceros are

practically worth their weight in gold to the natives, who poach them, rhinoceros horn being used for medicinal purposes of a quack nature in the Far East. So much so is this the case that not only are all the Asiatic species on the wane because of this strange practice, but the demand for the horn has even affected the market price of African rhino horn. The great Indian rhinoceros has suffered almost as much as the Javan species and is now restricted in its distribution to a comparatively small area in Nepal and possibly Assam. In this animal the horn as a rule is little longer than that of the Javan species, but in the record specimen in the British Museum collection the length is as much as 24 inches.

Then again the Sumatran Rhinoceros is also getting rarer every day and soon will have disappeared from many of its favourite haunts. This animal is widely spread over Eastern Asia, and its distributional area includes Borneo. It is the smallest living member of the family and is distinguished from the other Asiatic rhinoceroses in that it carries two horns; these are as a rule of no great size, but the record specimens in the Museum collection, which are two front horns, measure $32\frac{1}{8}$ and $27\frac{1}{8}$ inches respectively. The skin of this species is sometimes smooth and hairless, at other times the body is clothed in a regular coat of stiff harsh hair.

The White Rhinoceros of Africa is in rather a different position from the Asiatic species, as it is not only strictly protected by rules and regulations but these are enforced. In the days of the early settlers in South Africa this rhinoceros was so plentiful that it was all in a day's work for a man to shoot several of these magnificent beasts. No animal of such slow breeding powers, as this species possesses, could possibly survive for any length of time such persecution, and we find that in the early days of the twentieth century the White Rhinoceros of South Africa was so reduced in numbers as to be on the verge of extinction. Under rigid protection the few that remain in this portion of the continent have survived and multiplied and to-day are in fair numbers in two reserves in Zululand, and this rhinoceros for the time being may be regarded as in a fairly

firm position. In the early days of this century Major P. H. G. Powell-Cotton discovered the Northern White Rhinoceros near Lado, in the Sudan, and this race, which has been named Rhinoceros simus cottoni, is a very close relation of the Southern form, so close as to be all but indistinguishable. This Northern race is distributed widely over a great part of North-Central Equatorial Africa, occurring not only in the Sudan, but in Northern Uganda and along the Congo-Sudan boundary as well. It is reported to be present in fair numbers, and there would appear to be no immediate cause for anxiety regarding the welfare of the Northern White Rhinoceros. At the same time, the situation was thought to be sufficiently serious at the recent conference on the Protection of the Fauna and Flora of Africa for the White Rhinoceros, including both the Southern and Northern forms, to receive the maximum protection afforded by the Convention.

Among other mammals which have been on the danger list and have recovered one might instance such beasts as the Sea Elephant, Sea Otter, Blesbok, Bontebok, and Gnu. These, owing to protective measures, are now holding their own and prospering. Many of the smaller marsupials and indigenous rodents of Australia are becoming rare owing to the spreading of civilization, the occurrence of bush fires consequent upon that civilization, and the ravages of the introduced fox. To the latter cause may be attributed the scarcity of many of the marsupials and ground birds of Australia. Another cause of the indigenous fauna and flora of Australia disappearing is the rabbit, the activities of which cause the creation of mile upon mile of desert lands, resulting in practically every living thing disappearing as the invading army marches on.

TANGANYIKA TERRITORY GAME PRESERVATION DEPARTMENT ANNUAL REPORT, 1935.

An interesting feature of game preservation during 1935 has been the establishment of a lion reserve in the Seronera section of the Serengeti plains. The families of lions there seem