

THE BIG GAME OF
AFRICA & EUROPE

R. Cheeseman.

"The Baller"

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THE GUN AT HOME & ABROAD

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THE GUN AT HOME AND ABROAD

THE BIG GAME OF
AFRICA & EUROPE

BY

F. C. SELOUS

J. G. MILLAIS

ABEL CHAPMAN



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PREFACE

THE reception of Volumes I and II of this Work has been so favourable that the Publishers are encouraged to hope that a similar success will attend the present Volume, which deals with Big Game Shooting in Africa and Europe.

In this Volume Mr Selous has given some account of every species of African animal likely to be of interest to the sportsman. Whilst writing very fully, and in almost every instance from personal experience concerning what may be termed the nobler forms of African game, he has been careful not to overload his pages with minute descriptions of every species, sub-species or local race, into which certain widely distributed families of Antelopes have been divided. For although they may differ slightly one from the other in certain outward characteristics, they are yet absolutely identical in their habits and mode of life.

In the same manner Mr J. G. Millais describes the Big Game now to be found inhabiting Europe. He deals with each species in accordance with its importance as an animal of the chase, and sets forth fully both their natural history and the sport that they afford at the present day in the various preserved and unpreserved districts of Scandinavia, Russia, Germany, Turkey, France, Austria and its dependencies, and the Mediterranean Islands. From this account it may be seen that the sportsman is able to-day to obtain trophies of all the nobler animals of former times, except the Bison, and the Alpine Ibex (now only existing in the preserves of the King of Italy), and has as good a chance as ever of obtaining fine specimens, with the single exception of the Red Deer, which, owing to increased numbers, has much deteriorated.

Mr Millais' account of European Big Game is supplemented by a special chapter on the wild animals of Spain, written by Mr Abel Chapman, whose long experience in that country, both as a naturalist and sportsman, has eminently qualified him to write on the subject.

The Publishers desire to thank the Hon. Walter Rothschild, Sir Edmund Loder, Sir William Garstin, Sir H. Lincoln Tangye, Messrs A. E. Butter, W. N. McMillan, Ernest W. Thompson, W. H. Levy, and E. J. Boake for their practical help with some of the illustrations. To Sir Edmund Loder especially their thanks are due for his kind assistance.

It remains to add that this Volume has been prepared for the press by Mr H. A. Bryden.

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HIS MAJESTY KING GEORGE V

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AFRICAN GAME

INTRODUCTION

FROM very ancient times Africa has been known to the more civilized races of the world as pre-eminently the home of strange and wonderful forms of life. It was in the dark recesses of the eastern portions of this vast continent that the elephants were slain, the ivory from whose tusks was used in the decoration of King Solomon's temple at Jerusalem; whilst the existence of great man-like apes in Western Africa was first discovered by Carthaginian navigators, though whether the strange creatures seen by Hanno and his companions were gorillas, or chimpanzees, or only great dog-faced baboons, can never now be ascertained.

In later Roman times the lions, rhinoceroses and other wonderful animals which were shown in the great amphitheatre of the Coliseum were all brought from Africa, as also, it is supposed, were the elephants used by the Carthaginians in the Punic wars. There is, however, considerable doubt on this point, many authorities maintaining that the elephants used by the Carthaginians in their wars with the Romans had been brought overland from India, in which country these highly intelligent animals had long been trained to the service of man.

But, although in ancient times, as far as was known to the geographers and explorers of those early days, Africa surpassed all other known regions of the world in the wealth and variety of its fauna, still, at the same period of the world's history, many parts of Europe and Asia, as well as of the still undiscovered continent of America, were also exceedingly rich in wild animal life. But as the inhabitants of Asia and Europe increased in numbers and became more civilized, they gradually brought large areas of those continents under cultivation, and so reduced the range of the wild game.

Then America was discovered, and Europeans gradually spread right across that continent and penetrated into many other regions of the earth; and everywhere before their advance, the wild creatures of the forests and the plains, as well as of oceanic islands, and even of the open seas, melted away as at the breath of a pestilence, till at length few countries remained

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outside the continent of Africa in which wild animals were still really plentiful.

Up to the early years of the last century, however, Africa still slumbered on, and remained much in the same condition in which it had been for countless ages past. Save around the coastal fringe, no people of European race had until that time anywhere made good their footing in the country, and the great dark heart of the continent had remained a sanctuary, undisturbed except by wild men armed with archaic weapons, for countless hosts of wild creatures, representing a fauna unsurpassed in the richness of its variety or the numbers of its individuals by any that has ever existed on this planet.

But how does the matter stand to-day, after the last hundred years of European enterprise in Africa and the arming of hordes of African natives with the weapons of the white man ?

What has happened in that comparatively short space of time is indeed lamentable, and a sorry tale to tell to all lovers of nature and its wild creatures.

In the south all the great herds of antelopes and other animals, which less than seventy years ago still thronged the plains of the Cape Colony, the Orange Free State and the Transvaal, are gone, save for a very small remnant now preserved on enclosed farms. Gone, too, are the great white rhinoceroses and the major portion of all the noble game animals once so extraordinarily abundant in all the countries lying between the Limpopo and the Zambesi.

European settlement and the acquisition of fire-arms by the native tribes are the two causes which have been responsible for the extermination of the game over wide areas in Southern Africa. Yet, in spite of much persecution and the terrible visitation of rinderpest which swept through the country some few years ago, large game still survives in considerable numbers in certain districts to the south of the Zambesi, and in the semi-desert tracts which extend north-westward from the Bechuanaland Protectorate to Angola.

In North-Eastern Africa vast areas of country which not long ago teemed with game have been almost denuded of all wild creatures by the Abyssinians and the Somali tribesmen, who are now very generally armed with modern rifles, and who are at the same time subject to no restraint in the matter of hunting and killing game.

In certain other parts of the continent, too, such as Portuguese East and

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West Africa, and parts of German East Africa, the game has been very much reduced in numbers, both by hunting and by epidemic disease; whilst in some of the British Protectorates so much game has been shot of late years under sportsmen's and settlers' licences, that it is thought in many quarters that big game all over Africa must now be on the very verge of extinction.

Happily, this is very far from being the case, and to-day there are still enormous areas of country in that vast continent in which lovers of nature and big game hunters will still be able to find, in their native haunts, every species of wild animal which was ever indigenous to Africa, with the sole exceptions of the blaauwbok and the true quagga, which latter was after all only a local race or sub-species of Burchell's zebra.*

Referring to the abundance of big game still to be found in British East Africa, Mr Roosevelt, in his recently published book, "African Game Trails," tells us that in this region "nature, both as regards wild man and wild beast, does not differ materially from what it was in Europe in the late Pleistocene"; and this comparison, Mr Roosevelt maintains, is in no way fanciful, since "the teeming multitudes of wild creatures, the stupendous size of some of them, the terrible nature of others, and the low culture of many of the savage tribes, especially of the hunting tribes, substantially reproduce the conditions of life in Europe as it was led by our ancestors ages before the dawn of anything that could be called civilization."

That this is a true picture of one large area of Africa to-day no one will deny who has recently travelled through that marvellously well-stocked game country, and in many other regions wild animals are almost equally plentiful.

Fair fields, therefore, still exist in Africa to-day for the big game hunter, who has, moreover, in many ways immense advantages over his predecessor of an earlier generation. Instead of having to march to his hunting-grounds, often through hundreds of miles of unhealthy or waterless tracts of country, he is carried rapidly and comfortably by rail or steamer to the very heart of the continent. Nor need he apprehend any trouble from hostile or unfriendly natives, as these have now all been brought under the control of the various European administrations. The modern hunter, too, is armed with double-barrelled or magazine rifles

*The Blaauwbok (*Hippotragus leucophaeus*), a near relative of the Roan antelope, became extinct towards the end of the eighteenth century; and the Quagga (*Equus quagga*) about 1875.

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of such marvellous power and precision that they are as superior to the old muzzle-loading guns used by big game hunters in South Africa less than forty years ago as were the latter to the bows and arrows of an earlier time.

Nothing illustrates better the difficulties of getting about and finding big game in the interior of Africa before the country had been tamed than the fact that although Sir Samuel Baker, Speke and Grant, and many others of the early explorers, all of whom were enthusiastic big game hunters, travelled many times backwards and forwards up and down the Upper Nile between the Albert Nyanza and Gondokoro, the existence of the great white rhinoceros, as a common animal throughout that region, in the immediate vicinity of the western bank of the river, was never discovered until long after their time, when the country had been thoroughly pacified and reduced to order.

I will now supplement these general remarks concerning African big game with some more particular information regarding all the more interesting species to be found in that vast continent, commencing with the elephant, the largest and in many respects the most interesting of all living mammals.

THE ELEPHANT

ELEPHAS AFRICANUS

THIS, at once the most majestic and the largest of all terrestrial animals inhabiting the earth to-day, was once found in every portion of the African continent, where a sufficiency of the food requisite for its subsistence was procurable, its range at one time extending from the Cape to Egypt and from Somaliland to Senegambia.

As ivory has always been a very valuable commodity, the African elephant has doubtless constantly been hunted for the value of its tusks ever since the time when the Phœnicians and Sabæans first entered into trading relations with the natives of Africa; but as the weapons employed in its pursuit must, in those early days, have been of a very primitive character, the number of elephants annually killed was probably not very great; for not until fire-arms were brought against them did these animals yield one foot of ground to their human foes.

Since that time, however, the destruction of the African elephant has proceeded apace, especially during the past half-century, and had it not been that of late years this species has been more or less efficiently protected over large areas by the administrations of the various African territories, which have been taken possession of by different European Powers, the number of these animals still surviving would certainly have been very much less than it actually is.

Few people have any idea of the enormous annual consumption of ivory in the world to-day. Without professing to give exact statistics, I may say that it seems probable that during the last few years the average sales of ivory in London, Liverpool, Antwerp, Lisbon and Germany have together amounted to not less than 2,500,000 lb. annually. The average weight of the tusks which go to make up this enormous total is certainly under 20 lb. But if it be taken at that figure, that would give 40 lb. weight of ivory, on the average, for each elephant killed, on which basis 62,500 elephants would be required to supply the annual toll of 2,500,000 lb. of ivory. Even if it can be shown that a considerable amount of this ivory has not come from freshly killed elephants, but has long been buried in native storehouses, and that in addition a small quantity of Asiatic ivory also comes on the European market, it seems impossible to doubt that

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the minimum number of African elephants now annually slain must amount to at least 50,000.

Vast as are the areas throughout which elephants are still plentiful in Africa, it seems impossible to believe that the annual birth-rate amongst these slow-breeding animals can amount to 50,000; and since in all British possessions elephants are now so well protected by law that they can hardly be on the decrease, there must be some other territories in which the destruction of these animals must be very considerable. So immense, however, are the areas of country in which elephants still exist in very large numbers, that a long time will probably elapse before these animals can be in any danger of general extinction; and as the extermination of so wonderful and highly specialized a creature as the African elephant, merely for the value of its tusks, would not only be an irreparable loss to the world, but also a disgrace to the name of civilization, it is, I think, probable that sooner or later certain districts will be set aside in every part of Africa, under the administration of the representatives of the various European Powers, within the boundaries of which elephants will be protected from all molestation. Such elephant reserves must in fairness to the natives be placed in uninhabited districts, as protected elephants soon lose all fear of human beings who are not allowed to defend themselves against their depredations, and become very disagreeable and dangerous neighbours to agricultural communities.

It may not be generally known that in the Addo bush district, in the Eastern Province of the Cape Colony, wild elephants still roam at large in considerable numbers. Colonization and civilization have swept all round and far beyond this isolated herd; and railway lines, towns and villages have been built, north, south, east and west of the wild tract of thorn jungle and scrubby bush which was given over to them as a sanctuary many years ago by the Cape Government.

These elephants of the Addo bush are said to number about a hundred all told. They are, of course, strictly protected, but from time to time a few are shot to keep their numbers within limits; and, according to general belief, this is a difficult and dangerous enterprise, as, owing to the general immunity from persecution which they have so long enjoyed, these Cape Colony elephants have conceived a great contempt for human beings, and are most savage and dangerous when interfered with.

With the exception of the elephants in the Cape Colony, one solitary old bull, which I believe still survives in the game reserve in Zululand, and a

AFRICAN ELEPHANT

PLATE I.



THE ELEPHANT

herd which frequents the neighbourhood of the Maputa River in Amatongaland, there are no others to be found anywhere to the south of the Limpopo;* but in the country between that river and the Zambesi there are still many widely scattered herds, and from recent information I have received, I believe that in this part of Africa (which includes the whole of Southern Rhodesia, the Bechuanaland Protectorate, and the greater part of Portuguese East Africa) elephants have been steadily increasing in numbers of late years, as, with the exception of about a hundred which were killed two or three years ago on account of their aggressiveness in the Lo Magondi district of Southern Rhodesia, very few elephants have been shot in any of these territories since the occupation of Mashonaland in 1890.

Contrary, I think, to the general belief, there is no political division of Africa, with the exception of Bechuanaland proper, Natal and the Transvaal (and elephants may at any moment re-cross the Limpopo and take up their abode in the Sabi Game Reserve†), from the Cape Colony to the Sahara, in which elephants ever existed, from which they are altogether absent to-day, though, of course, there are many districts where these animals were once excessively numerous in which they are now very scarce or non-existent. In many parts of Uganda, however, as well as in the French and Belgian Congos and in the regions through which flow the Nile and all its main tributaries, elephants may still be met with in very great numbers.

Where elephants have been much persecuted and have in consequence become wild and wary, their pursuit entails great bodily fatigue and often hardships and discomforts of every kind, as these animals are capable of travelling enormous distances without resting and often lead the hunter into districts many miles away from the nearest water. To shoot an elephant from time to time under favourable conditions is one thing, but to hunt elephants for a living, to follow their tracks time after time without success, all day long, often in heavy sandy ground, and always under a blistering sun, is quite another; and such work in a few years' time must wear out the strongest and toughest constitution, for hunger, thirst and fever will have to be added to the never-ending fatigue. But if the quality of a sport is to be measured by the danger and excitement it affords, then no pursuit on earth can equal an encounter with elephants in one of their

* Since these lines were written a herd of about 30 elephants has taken up its abode in the game reserve of the N.E. Transvaal.

† This has already happened.

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strongholds, where the density of the bush is all against the hunter and in favour of the hunted. "Daat's oorlog, mijn Baas" ("That's war, my master"), said a wizened old Griqua hunter who had been an after-rider to Gordon Cumming, as he described to me the joys and the dangers of elephant hunting. Fred Green, too, one of the most famous of the early South African elephant hunters, long ago pronounced the pursuit of these awe-inspiring beasts (when they charge screaming loudly, and with their great ears outspread) to be the grandest sport in the world; and the late Mr Arthur Neumann, *facile princeps* amongst modern elephant hunters, only shortly before his death expressed to me exactly the same opinion.

However, with the reversion to the government of the Sudan of the Lado Enclave, which had been leased to King Leopold of Belgium for some years, the free elephant hunting—or elephant poaching, as it has been called—on which a few adventurous Englishmen had embarked during the interregnum, has come to an end, and with it the profession of elephant hunting as a means of livelihood.

Now, elephants can only be shot legally in very limited numbers in any part of Africa which has been taken possession of by the representatives of the European Powers. In British East Africa, Uganda and the Sudan not more than two can be shot in any one year by any one man, and these must be bulls carrying tusks weighing 30 lb. apiece. In the two latter provinces, I think, two elephants are allowed under the £50 licence, but in British East Africa no elephants can be shot at all under the £40 licence; £10 extra must be paid for one elephant, and a second may be killed for a payment of another £20. In North-Eastern Rhodesia, I believe, four elephants may be shot under a £50 game licence, without restrictions as to sex or weight of tusks.* This permission to shoot a certain number of cow elephants has probably been rendered necessary by the devastation caused by these animals in the native cornfields and banana plantations, and it seems certain that in Uganda and other parts of Central Africa the large herds of cow elephants which now often cause great injury to the natives will also have to be reduced in numbers to a certain limited extent.

All the old South African hunters who used to make their living by elephant hunting shot as many cows as they could which carried good tusks, for cow ivory, when of good quality and above a certain diameter,

* These game regulations are, however, subject to constant alteration.

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fetches a much higher price per pound than that of the biggest males. This wholesale shooting of cow elephants was, of course, most destructive to the life of the species, and, looking to the enormous toll which is now annually taken from the numbers of the African elephant, it is only right that these animals should be protected within reason by all civilized Governments; but the abuse which is so liberally showered upon men who have shot cow elephants by some of our too-zealous game preservers is a little overdone. A professional elephant hunter may now be out of place in the world as it is, but at any rate he was a man who led a very hard life, and took that life in his hand every time he followed a herd of elephants into the thick thorn jungles in which those animals love to stand during the hottest hours of the day.

Speaking generally, cow elephants are very much more dangerous than big bulls, for not only are they, as a rule, much more ready to charge than the latter, but when they do charge, they are much quicker in their movements.

Modern quick-firing rifles of enormous power probably reduce the danger of elephant hunting to a very considerable extent, but even now accidents frequently happen.

The question is very often asked: "What is the most effective rifle for elephant hunting?" I think the answer to that question should be: "The best rifle for elephant shooting is the most powerful weapon that a man's physical powers will allow him to make use of effectively."

Forty years ago the men who made their living by elephant hunting in South Africa, Boer and British alike, used nothing but heavy, clumsy old muzzle-loading smooth-bore guns of very large bore. Many elephants were killed with these primitive fire-arms, but they were, of course, very inferior to a modern cordite rifle, and as it took such a long time to re-load a muzzle-loading gun when it was once discharged, the dangers of elephant hunting with such weapons were naturally greater than they are to-day. It was only towards the close of the elephant-hunting era in South Africa, not long before the occupation of Mashonaland by the forces of the British South Africa Company, that it was discovered that elephants could be killed by body shots with much smaller bullets than the four-ounce spherical balls which up to that time had been looked upon as necessary for the destruction of these huge creatures.

Since that time many elephants have been killed in other parts of Africa with small-bore cordite rifles, and this not only with brain shots, but also

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with shots through the heart. The great elephant hunter, Mr Arthur Neumann, killed a number of big bull elephants in the neighbourhood of Lake Rudolph, with shots through the heart, with a '303 rifle, and since then many other men have done the same. However, when it is remembered that elephants are often, indeed usually, encountered in dense jungle, long grass, or bamboo thickets, in which their forms can only be dimly seen, and it may be impossible to get a clear shot, or to tell exactly at what angle they are standing, and where at any moment one may be charged at close quarters, a rifle is required which will not only kill an elephant when a picked shot can be obtained, but one which will also give the hunter the best chance of success under the most unfavourable conditions, and be likely to stop a charge in thick cover at close quarters. Such a rifle, in my opinion, should be the heaviest weapon that can be used easily. A powerfully built man would not find a double '577-bore cordite rifle too heavy for him, whilst one of slighter build might do better with a '450. Mr Arthur Neumann, in his later hunting expeditions, always used a double '450-bore cordite rifle by Rigby, and he told me himself that he could not have wished for anything better.

These heavy double-barrelled cordite rifles of the best English make, although they are probably the very best weapons for killing elephants which have ever been made, are, however, it must be remembered, so expensive that they are beyond the reach of any but the rich; and the man of small or only moderate means who is going to Africa and hopes to shoot an elephant or two, but cannot afford to purchase a very expensive rifle, would be well advised to take with him, in addition to his small bore, for all ordinary game, a magazine rifle taking a heavy cartridge.

A friend of mine has shot many elephants during the last few years in different parts of Central Africa with a '405-bore Winchester rifle, and during his recent year-long hunting trip with his father through East Africa, Uganda and the Sudan, Mr Kermit Roosevelt used nothing else but one of these rifles, with which he shot elephants, rhinoceroses and buffaloes without any difficulty. These Winchester rifles have the great advantage for a man of limited means of being very cheap, but English rifle makers are now turning out magazine rifles which shoot a larger charge of powder and carry a heavier bullet than a '405 Winchester, and which therefore must be much more powerful weapons than the latter. Such weapons would, I imagine, be found very effective against elephants

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and all other heavy game, and though they are more expensive than a Winchester, their cost would be very much less than that of a double-barrelled cordite rifle by any of the best makers.

For body shots, the upper part of the heart and the lungs are, as in all other animals, the vital spots to aim for in an elephant's anatomy, and these organs are situated in the same relative positions as in all other animals. Only long experience can teach a man where exactly is the best place to hit an elephant, from every possible point of view from which he may have to take the shot. If an elephant is standing broadside on, a shot entering the head just beneath the orifice of the ear should reach the brain and cause instant death, whilst a bullet through the centre of the shoulder would pierce the heart. A shot placed rather high up on an elephant's body, just where the outside edge of the broadest part of the great ear rests on it, ought to pass through the big blood-vessels of both lungs, and if so, will soon cause death; and this lung shot (it must penetrate both lungs to be fatal) has the great advantage over a heart shot that it will cause great quantities of blood to be thrown from the wounded animal's trunk, and render tracking very easy to the spot where it will be found lying dead, whilst an elephant shot through the heart may only bleed internally and be very difficult to follow, if its tracks are intermixed with those of other elephants. Should one of these animals be shot through the top of the heart, or through the large blood-vessels immediately above the heart, it will fall dead after making a short rush of from fifty to one hundred and fifty yards; but there can be no doubt that an elephant shot through the lower part of the heart will sometimes travel quite a long distance before dying. Should one fire for an elephant's lungs and hit it somewhat too high, the bullet may touch and jar the vertebral column and cause the animal to fall as if shot through the brain. If in such a case the back be broken, the animal will not be able to rise again, but should the bullet have only grazed the backbone, it will get up again, sometimes immediately after falling down, sometimes after having lain motionless for quite a long time; so that in elephant shooting it is always advisable, when one of these animals falls to the shot, to at once run up behind it and put in a second bullet at the back of the head.

I am told that with a modern high-velocity cordite rifle a charging elephant can be killed with a shot in front of the head; but if this is really the case, from the position in which an elephant holds its head when charging, a bullet, to reach its brain, must strike it well below the line of

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the eyes, otherwise it must pass above the brain. I have myself hit several charging elephants with a round four-ounce bullet fired from a muzzle-loading smooth-bore gun, just between the eyes; but, although I always stopped them, I never killed or even knocked one down. I have also shot a number of charging elephants, with the same big-bore gun, through the trunk below the tusks, and in the chest; and in my experience, every charging elephant I ever hit, either in the head or chest as it was coming on, always immediately stopped screaming and swerved off. Whether the small nickel-coated bullets of a modern cordite rifle would have the same effect or not, I cannot say, but in 1885 I stopped the charge of a badly wounded and very savage bull elephant in thick bush with a solid leaden bullet fired from a black-powder rifle of .461 bore. This elephant came on trumpeting loudly, but immediately the bullet struck it, it stopped screaming and swerved off. A solid bullet, however, fired from a modern cordite rifle, passes through anything it hits with such enormous velocity that it may not have the same effect of a severe blow as the heavy spherical leaden bullets fired from black-powder large-bore guns and rifles undoubtedly gave. When a vicious elephant comes running out of a herd, trumpeting loudly, looking for, but not having exactly located, its enemy, it usually holds its trunk high in the air; but when it actually charges or chases a man or horse, it—usually, at any rate—drops its trunk, holding it straight down in front of its chest with the point curved inwards. At least, when hunting elephants on horseback in Mashonaland many years ago, I noted on several occasions that elephants' trunks were held in this position when they charged and chased one of my mounted companions.

It sometimes happens that when following an elephant one suddenly comes in view of its hind quarters at a distance of only a few yards. The long grass or dense thorn bush may be so thick that it is impossible to leave the elephant path along which one has been walking. The wind may be shifty, and the huge beast one has perhaps been following for hours may suddenly become aware of one's near proximity, and either crash off through the thick bush in front of it or swing round and charge without a moment's hesitation. Under such circumstances, two courses are open to one. Either one must retreat quickly and noiselessly, and give the elephant time to move forwards into more favourable country before again approaching, or one must try and put a bullet into its spine. This shot, however, must be accurate, or the wounded beast may spin round and be down upon its assailant like an avalanche.

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A study of the hind quarters of an African elephant will show that from behind the pelvis they slope off very sharply, and that from the top of the animal's back to the root of the tail the vertebral column stands out in the form of a high ridge some inches in breadth. If a bullet is placed in the centre of this high ridge, about three feet above the root of an elephant's tail, his hind quarters will be instantly paralysed and the injured animal placed at one's mercy. But the bullet must be placed in the centre of the ridge and should therefore be fired at short range.

Should an elephant have any of the large bones of either a fore or a hind leg broken, it becomes at once absolutely helpless, as it will not be able to move from the place where it is standing; and when using the large smooth-bore guns of forty years ago, the elephant hunters of that period often aimed deliberately at the great bulge to the side of the chest of a half-facing elephant, which marked the spot where the knob of the humerus joined the shoulder-blade. If this spot was fairly hit, the bone was almost certainly shattered and the elephant anchored. It is, however, I think, possible that where a large round bullet might shatter a bone, a small hole might be drilled through it without doing much damage by a hard nickel-coated projectile fired from a modern cordite rifle. After a shot has been fired at a bull elephant amongst a herd of cows, a sudden charge by one of the latter is always to be expected, and it may become necessary to shoot such an aggressive animal in self-defence. Whenever an elephant is seen holding its ears half cocked forwards, turning quickly from side to side, and holding its tail straight up in the air, look out for it, for an animal acting in this way will assuredly charge immediately it is able to locate the whereabouts of its enemy either by sight, scent or hearing.

THE WHITE OR SQUARE-MOUTHED RHINOCEROS

RHINOCEROS SIMUS

THE white or square-mouthed rhinoceros was, within my own experience, an exceedingly common animal less than forty years ago in many parts of South Africa to the south of the Cunene and Zambesi rivers, but already at that date the species had been exterminated throughout all the south-western portions of its original range. I believe there is no authentic record of the occurrence of the white rhinoceros to the south of the Orange River, but in the early years of last century it was met with by Burchell and other travellers in Southern Bechuanaland not far to the north of that river. The emigrant Boers first encountered the white rhinoceros just north of the Vaal River on the open grassy downs, where the towns of Klerksdorp and Potchefstroom now stand, and I have had the actual spots pointed out to me by old Boer "voortrekkers" where they averred they had seen or shot individuals of this species, and I have no doubt that it was the circumstance that the first square-mouthed rhinoceroses seen by the Boer pioneers must undoubtedly have looked very white when seen standing sunning themselves in the early morning on these open grass plains, which gained for them the name of "white" rhinoceroses in contradistinction to the prehensile-lipped species which had been previously met with, and which, being a bush feeder, had always been seen amongst trees and bush, where it looked perhaps darker than it really was, and had already been named the "black" rhinoceros. As a matter of fact, both species of African rhinoceroses—the square-mouthed and the prehensile-lipped—are of very much the same colour—a uniform dark grey. In 1836 Cornwallis Harris and Sir Andrew Smith found the white rhinoceros extraordinarily plentiful in the north-western districts of what is now the Transvaal State, and at that time it was doubtless almost equally plentiful from Zululand in the south-east to the Cunene River in the north-west, wherever the country was suitable to its existence. In those days these huge pachyderms were practically without enemies, for, with the exception of the small number which fell into native pitfalls, very few could have been killed, and before the advent of the European hunter with his death-dealing fire-arms, the species must have increased almost to the limit of its food supply. Within fifty years, however, of the



Photos by]

WHITE RHINOCEROS.

From Bahr-el-Chazal, showing long extension at back of skull.
In the Collection of Sir Edmund G. Loder, Bt.

Hr. Dixon & Son.

WHITE RHINOCEROS.

From Sebakwe River, Matabeleland.
Shot by Mr F. C. Selous.

PLATE II.

THE WHITE OR SQUARE-MOUTHED RHINOCEROS

time when Cornwallis Harris had met with the white rhinoceros in almost incredible numbers, in what is now the Magaliesberg district of the Transvaal, thousands upon thousands of these huge creatures were killed by white hunters, and natives armed with the white man's weapons, and the species had become practically extinct. A few still lingered, possibly a few may still linger, in the neighbourhood of the Angwa River in Northern Mashonaland, and a small number also survived in Zululand. These latter have been carefully preserved of late years, and in 1909 were supposed to number about twelve, including two or three calves. Shortly before that date, however, five of these most rare and interesting animals had met with their death by misadventure in the Zululand reserve. One was killed by a solitary old bull elephant—the only elephant still existing in Zululand. Another fell over a cliff and was killed; whilst a third died of some unknown disease, and two others, which had wandered out of the reserve into an inhabited part of the country, were killed by the natives.

Up to a very recent date it was always supposed that the range of the white rhinoceros was entirely confined to the southern portion of the African continent, and that with the final extinction of the small number of these animals still surviving in Southern Rhodesia and Zululand, the species would vanish from the face of the earth. A few years ago, however, Major (now Colonel) A. St Hill Gibbons shot and preserved a square-mouthed grass-eating rhinoceros in the neighbourhood of Lado, on the west bank of the Upper Nile and about five degrees north of the equator. Since then it has been found that these animals exist in considerable numbers all along the western bank of the Nile, from Lake Albert to Shambé in the Bahr-el-Ghazal Province and probably further north still. Although the most southerly limit of the range of the northern white rhinoceros is separated by some 2,000 miles from the nearest point where the southern race of the same species has ever been known to exist, whatever differences there may be between the two forms appear to be very slight and of little importance. However, in point of size, the white rhinoceroses found along the west bank of the Upper Nile certainly seem to be smaller than their relatives of South Africa. Mr Roosevelt found by actual measurement that the largest black rhinoceros he shot in the Sotik district of British East Africa actually stood higher at the shoulder than some of the adult white rhinoceroses he shot in the Lado Enclave. I imagine therefore that adult male white rhinoceroses on the Upper Nile do not as a rule stand higher than 5 ft. 8 in. at the shoulder. This is ten inches to

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a foot less than the standing height often attributed to white rhinoceroses in South Africa. Having myself measured only one white rhinoceros in South Africa, I have in some of my writings acquiesced in Harris's statement that these animals stood 6 ft. 6 in.; but as the only animal I actually measured—a very large male—only reached a height of six feet at the shoulder, I have always privately doubted the accuracy of the very much greater measurements which have been recorded. From information given me by Mr. Roosevelt I have, however, no doubt that in South Africa the white rhinoceros was, on the average, a bigger animal, carrying finer horns, than the northern representatives of the stock from which all the white rhinoceroses in Africa were originally descended. The better feeding and cooler climate that the white rhinoceroses which had ranged down to South Africa undoubtedly enjoyed, are quite sufficient, I imagine, to account for this difference in bodily size, and in the development of the horns. One very remarkable point about the white rhinoceros in South Africa—a point which I think was first recorded by Gordon Cumming—was the way in which when moving a small calf always preceded its mother, which appeared to guide it by pressing with the point of its horn on the little creature's rump. On several occasions I have galloped after a cow white rhinoceros with a small calf, and have been astonished at the precision with which on any sudden change of pace, from a trot to a gallop or vice versa, the relative positions of the two animals were always exactly maintained. During the rainy season in South Africa white rhinoceroses became excessively fat, and often retained their good condition till far on in the dry season, and their meat was, I think, held in higher estimation than that of any other animal in the country. It was strong dark red meat like beef, but with a peculiar flavour of its own. White rhinoceros hump was considered a great delicacy by old South African hunters. This hump was situated not on the shoulders, but on the back of the neck, in front of the shoulders, and was always cooked in its skin in a hole in the ground. Although a few accidents have occurred in the course of the extermination of the white rhinoceros in South Africa, they have been very few and far between, and I have never heard of a human being having been killed by one of these animals. Speaking generally, they were most inoffensive creatures, and there was no sport or excitement in shooting them. Of all the very considerable number I encountered I am glad to say I killed very few, and these only when I required food for myself and my native followers. As all the white

THE WHITE OR SQUARE-MOUTHED RHINOCEROS

rhinoceroses still surviving to-day, both in Southern and Central Africa, are in British territory—unless, indeed, there are a few in the French Congo—it is to be hoped that they will be afforded a measure of protection which will save them for a long time to come from final extinction.

In South Africa white rhinoceroses were accustomed to feed during the night and in the early morning and late evening, and lay asleep in the shade of trees or bushes during the heat of the day, looking for all the world like gigantic pigs. In that part of Africa I certainly thought that these animals were accustomed to drink regularly every evening, but those inhabiting Central Africa may be capable of going without water for a longer period, as when I was recently in the Bahr-el-Ghazal province, Captain Collum, with whom I was travelling, shot one of these animals near the well of Gemaiza, eighteen miles from Shambé, the nearest point on the Nile, as far as we could discover, where it could have got water. The white rhinoceros is a pure grass feeder, and where undisturbed was accustomed to deposit its dung day after day in the same place. Though very keen-scented and fairly quick of hearing, the eyesight of these animals always seemed to me to be extraordinarily dull. They were often warned of danger by the rhinoceros birds—*Buphaga erythorhynca*—which were accustomed to run all over their heads and bodies in search of ticks, and they would at once stand up and very soon run off when these birds showed any excitement, as they always did at the approach of human beings. Their pace was a long ground-covering trot, which soon left all pursuit from a man on foot far behind; but if chased on horseback, they could gallop at great speed for a considerable distance. In my experience, whether walking, trotting or galloping, these huge animals always held their great square noses close to the ground. When mortally wounded, they would often stand and beat their noses on the ground many times before falling down. This was indeed a piteous spectacle even to the eyes of a hungry hunter. White rhinoceroses, though they will quickly succumb to a shot through the heart or through both lungs, will travel very long distances before halting or lying down after having received anything but an absolutely mortal wound. They may be killed undoubtedly with small-bore rifles, but it would be a most unsportsmanlike proceeding on the part of anyone to risk wounding one of these rare and wonderful animals, and either a heavy cordite rifle ought to be used to secure a specimen or they should be left alone.

THE BLACK OR PREHENSILE-LIPPED RHINOCEROS

RHINOCEROS BICORNIS

THE black or prehensile-lipped rhinoceros was once an inhabitant of almost every part of Africa, south of Egypt, and the desert of Sahara, with the exception of the great equatorial forests to the westward of the Ruwenzori range of mountains and the open grass plains lying between the Orange and Limpopo rivers. It was first met with by the early Dutch settlers in the immediate vicinity of Cape Town, but was probably nowhere very numerous to the south of Zululand and the northern districts of the Transvaal. In 1836, when Cornwallis Harris and Sir Andrew Smith penetrated to the valley of the Upper Limpopo, they found black rhinoceroses extraordinarily plentiful. With the spread of European settlement, however, and the acquisition of fire-arms by the native tribes these animals grew ever scarcer and scarcer, and over vast areas of country to the south of the Zambesi they have long ceased to exist, and to-day there can only be a very few localities in this part of Africa where any still survive. To the north and north-east of Salisbury in Southern Rhodesia there may possibly still be a few in out-of-the-way places, such as the neighbourhood of the Lower Umsengaisi River; but, speaking generally, the black rhinoceros is either extinct or on the very verge of extinction almost everywhere in Africa to the south of the Zambesi. To the north of that river this species is widely distributed, but is nowhere found in any great abundance to the southward of the territories lying round the base of Mount Kilimanjaro. From that point, however, throughout British East Africa, right up to the Abyssinian frontier, these animals are still to be found in very large numbers. Indeed, in certain districts they are probably as plentiful to-day as they ever were in Harris's time in the Northern Transvaal and the valley of the Limpopo. In Northern Nigeria the black rhinoceros does not seem to exist, except in the neighbourhood of Lake Chad and the valley of the Shari River. In South Africa this species was always a bush-loving animal, and did not often wander far into open plains, but in East Africa it is commonly met with in bare open country, far away from any trees or bush. In such localities, however, it will be found that the rhinoceroses feed on tiny little thorn bushes, which they

BLACK RHINOCEROS

PLATE III.



THE BLACK OR PREHENSILE-LIPPED RHINOCEROS

have cropped to such an extent that they are altogether hidden by the grass, or on the fleshy leaves of a species of plant which grows amongst the grass. Although the point has not been quite satisfactorily cleared up, it is doubtful whether in these localities the black rhinoceros ever eats grass except by accident, and in South Africa these animals certainly never used to eat grass at all.

Speaking generally, it may be said that the black rhinoceros is never found at a distance of more than a few miles away from water, as, generally speaking, it requires to drink regularly every day; but it has been reported that in certain parts of Somaliland it is able to subsist throughout the dry season on a species of aloe, the acrid juice of which affords it a sufficiency of liquid to enable it to live. Such a case is, however, certainly very exceptional, as these ponderous animals usually drink at least once every twenty-four hours, and in hot weather both in the evening and early morning.

In the black rhinoceros the sense of smell is very acute, and these animals are also quick of hearing; but their eyesight is not at all good. They certainly cannot make out the details of a stationary object, even when quite close to it, but I am inclined to think that they can see anything moving at some distance away from them. In South Africa I always found black rhinoceroses very inquisitive animals. When hunting elephants in the country between Matabeleland and the Zambesi, in the early 'seventies of the last century, I often passed with my native attendants close to where one of these animals was lying asleep. On hearing us, it would at once get up, and, if it had not got our wind, would come trotting towards us, often snorting loudly. I was never, however, charged by one of these rhinoceroses. They all of them turned and trotted off sooner or later. If, however, they got my wind, even when they were several hundred yards away, they always ran off. When hunting rhinoceroses on horseback, I have been charged and chased, both before and after I had fired at them. The inquisitive disposition and truculent appearance of the black rhinoceros has, I think, undoubtedly often been taken as an indication of ill-temper and ferocity in all members of the species, which in many cases was probably quite undeserved. At any rate, in South Africa, thousands upon thousands of black rhinoceroses have been killed, and the species has been practically exterminated in that part of Africa, at an extraordinarily small cost in human life. Indeed, with the exception of one inexperienced sportsman who was killed a few years ago in Southern Rhodesia by a black rhinoceros which he had wounded and incautiously

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approached, I have never heard of the death of any other white man by the horns of one of these animals in that part of the continent. Amongst all the well-known English travellers and hunters of the last century in South Africa, Mr W. Cotton Oswell and C. J. Andersson are the only men who met with severe injuries in hunting these animals, and the last-named seems to have courted the accident he met with by going close up to a rhinoceros in the dark which he thought he had mortally wounded. However, although in my own experience in South Africa, I never found the character of the black rhinoceros to be as black as it had been painted, yet I am inclined to think that in some districts in East Africa a certain percentage of these animals may be expected to make themselves disagreeable. But opinions differ very much as to what that percentage of vicious and aggressive animals really is. Some sportsmen in East Africa aver that almost every rhinoceros they saw either charged them or was on the point of charging when stopped by a well-directed bullet, or would have charged if it could only have made them out. Others, again, consider that although some rhinoceroses in East Africa are really savage and dangerous animals, the majority will avoid all contact with human beings if they possibly can do so. My own experience with black rhinoceroses in East Africa has not been very large, and I cannot therefore give any opinion regarding the character of these animals in that part of the continent. My friend, Captain C. H. Stigand, however, who has had a very large experience with black rhinoceroses in East and Central Africa, and who is not only an expert hunter, but a very observant naturalist, has recently written as follows* on the much-disputed question as to the general character of the black rhinoceros:

“ My view is somewhat as follows:

“ First of all, there are the many rhino you see, but which do not perceive you either by hearing or smell. These can be practically put out of the discussion. So a man walking about in an open rhino country and having his wits about him may see many rhino and meanwhile himself be only in the slightest danger. But rhino often suddenly make up their minds to run in a certain direction, apparently for no object, and as suddenly decide to stop still or to run off somewhere else. Thus even some of these might have the appearance of coming for you or might run across the wind of a sportsman after he had taken every precaution.

* *The Game of British East Africa*, by Captain C. H. Stigand, F.R.G.S., F.Z.S.

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“Putting aside these, however, we have to deal with the rhino which have been made aware of your presence either by sound, smell, or possibly sight. These will, as a general rule, run away from you. About one out of five, however, will make as if he was coming for you. Of those which do this, the greater part will subsequently think better of it, and so, after coming towards you for a short distance, will swerve away and make off or will pass you at a distance to either flank. But about one out of five again, of these, will press straight on. Thus, out of twenty-five rhino which have got your wind or in some way perceived you, we have on an average one pressing home an attack. He may be shot coming at you, and he may be wounded. If he is wounded, it will probably alter his frame of mind according to the gravity or otherwise of the wound he has received and his individual temperament. He may also just miss you and then decide to go straight on without turning. Possibly he never really intended to hit you off.

“If rhinos were left alone and not fired at, I believe the greater number would be found to make a blind charge. That is to say, they would come straight for your wind, and if they did not actually run right up against something or some one, they would then rush straight through and off the other side, still going up-wind. If one met anything directly in his way he would toss it. The chances are, however, that he would just miss you by a few yards and go straight on. When you came into his range of vision he might also not like the look of you, and swerve so as to pass you.

“Out of these rhino who press home an attack, I take it that, say, one in ten again are really bad rhino and mean to do harm. Instead of passing by at a few yards, they will, directly you come into view, whip round on you with surprising agility, and they really mean business.

“So we get out of every two hundred and fifty rhino about one which is a really bad rhino, and which will, if he gets your wind, without any act of aggression on your part, try his best to do some damage.”

This is the opinion of a very experienced hunter as to the character of the black rhinoceros in East Africa, but it is only fair to say that many sportsmen who have had considerable experience in that country believe that not a small minority, but a large majority of these animals are really savage and aggressive in disposition, and can give what seem to be very valid reasons for the opinions they hold; and it certainly will be advisable

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for young sportsmen when first making the acquaintance of these formidable-looking brutes, whose characters and tempers must always in the first instance be unknown quantities, to treat them with the caution and respect which is due to their tremendous strength and great activity, if these qualities should happen to be combined with a savage disposition. Some men of great experience in East Africa express the greatest contempt for rhinoceroses, whilst others again confess that they can never get over the nervousness they always feel in the presence of these always truculent-looking and sometimes really dangerous animals. The extraordinary diversity of opinion on the subject of the black rhinoceros in East Africa shows very clearly how impossible it is to lay down any hard and fast rules as to what the behaviour of one of these animals is likely to be under any given circumstances.

Like all other African animals, to be killed quickly, rhinoceroses must be hit in a vital spot. They can often be so closely approached against the wind that they can be killed on the spot with a shot just below the root of the ear, which will penetrate the brain, and for this brain shot a very small-bore rifle is just as good as the most powerful weapon, though for body shots it will always be advisable to use the heaviest rifle in one's battery. The heart and lungs are the vital organs to aim for; but, although a rhinoceros will quickly succumb to a shot which penetrates the large blood-vessels of both lungs, it is as well to remember that one of these animals, if only shot through one lung, or in any other part of the body other than the heart or lungs, is likely to travel many miles after having been wounded before halting or lying down. If the one foreleg or shoulder of a rhinoceros should be broken, it will gallop on three legs at quite a good pace for half a mile or so before stopping; but with a hind leg broken, or even a hind foot shattered by a bullet, it will at once come to a standstill.

THE HIPPOPOTAMUS

HIPPOPOTAMUS AMPHIBIUS

FROM time to time bones and skulls have been dug up from the valley of the Thames and other places in Southern Britain which osteologists have pronounced to have belonged to an animal which apparently differed in no way from the existent hippopotamus. These huge creatures, therefore, probably retreated southwards from Europe in pleistocene times before the advance of the last glacial period, and entered Africa before that continent had become entirely separated from Europe by the Mediterranean Sea as it now exists.

By way of the valley of the Nile, possibly, the species spread southwards, and in course of time established itself in every lake and river throughout Africa. However long it may have taken these huge, unwieldy creatures to occupy every portion of so vast a continent, wherever the conditions suitable to their requirements were to be found, that occupation must have been accomplished at a very remote period, for on the Umfuli River in Southern Rhodesia I have seen myself footpaths worn deep in the solid rock by the feet of countless generations of these animals following always on the same track between one deep pool and another.

When I first visited South Africa, now more than forty years ago, an old hippopotamus bull still survived in the Berg River, not very far from Cape Town. This animal, however, had to be destroyed, as in its old age it became very savage. It was said that on the approach of any human being it would leave the water and drive him or her off. Finally it killed a boy, and, though this exploit was no doubt very soothing to its feelings, it excited so much animosity against it that an order was given for its execution, and it was shot.

The last of the hippos in the Berg River was not, however, the last survivor of its species in the Cape Colony, for at the time of its death a small number of these animals were still living in the St John's River, near East London, as also it was reported in the lower reaches of the great Orange River. In the former locality hippos have long ceased to exist, and I have never heard any reliable evidence of their presence in modern times anywhere in the latter. The pioneer missionary, Robert Moffat, met with them there nearly a hundred years ago, and I have seen

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a hippo tooth which was dredged up near the junction of the Orange and Vaal rivers, but I have never met anyone who had himself seen living hippos in any part of the Orange River. However, as the lower part of this river is very little known, some few of these animals may possibly still survive there.

In Natal a herd of hippos was long preserved in a wild state in a lagoon near the Umgeni River, but in 1898 it was found necessary to destroy these animals on account of their devastations in the neighbouring sugar plantations. In some parts of South-Western Africa the gradual desiccation of the country has been responsible for the disappearance of hippos from their former haunts. Less than a hundred years ago they were met with by the Rev. Robert Moffat in the Kuruman River in Southern Bechuanaland, and many years later they were still found in the pools of the Molopo, near the present town of Mafeking; but it is a very long time now since there was water enough for an otter, let alone a hippopotamus, in either of those streams. Still, though the range of the hippopotamus has been very considerably curtailed in the settled districts of South and South-Western Africa, it has been but very little affected by the progress of civilization in other parts of the continent. Although steamers now ply regularly on all the great lakes and rivers of Africa, hippos have nowhere deserted their immemorial haunts through the terror inspired by these smoking, panting, screeching monsters. Utter astonishment at first held them spellbound, watching at close range these curious-looking, swift-moving structures; but they soon discovered that they were products of the ingenuity of their one and only enemy, man, for many of them were wounded or killed by rifle shots fired from their decks. They soon learnt wisdom, and now usually give steamers a pretty wide berth, but at the same time they have grown quite used to them, and altogether refuse to retire from the larger waterways because these have been invaded by the noisy restlessness of modern civilization.

Shooting hippos may be mere butchery, or it may be an exceedingly difficult and sometimes even dangerous form of sport.

I have seen herds of hippos in comparatively small pools in the rivers running to the Zambesi, from the high lands of the country now known as Southern Rhodesia, in which it would have been easy for a fairly good shot to have killed every one of these animals in a very short time. On the other hand, to shoot hippos from a small boat or a crank canoe in a large river like the Zambesi is most difficult. The boat is unsteady, and the hippos,



HIPPOPOTAMUS.

In the possession of Sir H. Lincoln Tangye, Bt.

PLATE IV.

THE HIPPOPOTAMUS

having plenty of sea room, keep their distance, and, if they have been much molested, only raise their heads above the water to breathe for such a very short time that not only great accuracy of aim is necessary to hit one in the brain, but great quickness in firing as well. There is always the chance, too, that if a savage animal is wounded, it may attack the boat. Only a few months ago I heard that a sportsman lost his life in this way in East Africa, having been drowned after his boat was capsized by a wounded hippo. In certain localities hippos are very much more aggressive than in others, and the natives are often very much afraid of them. Old bulls and cows with newly born calves are the most dangerous. Opening their huge jaws to their fullest extent, they will tear a great rent in the side of a canoe or small boat, and at once sink it, and sometimes they will attack its occupants as they are swimming away or struggling in the water. A canoe of my own was once capsized in the Upper Zambesi by a hippo cow with a very young calf. In this instance the angry animal first came up under the canoe, and then, laying her great head over it, just pressed it down and sank it in fourteen feet of water. I afterwards watched this hippo for a long time and tried to shoot it, but without success. For more than an hour I took the times that it stopped under water. The longest time was 4 minutes 20 seconds, and the shortest 40 seconds, the average being from 2 minutes to 2 minutes 30 seconds. After having been fired at, this animal always remained more than four minutes under water, and as in such cases it could scarcely have had time to take a full breath, it is conceivable that had it been able to fill its lungs with air before going down it might have remained below the surface for some time longer.

Hippos are much more active on land than their huge bodies and very short legs would lead one to suppose. If, after having been much shot at in one pool, they make up their minds to leave it in the daytime and seek a safer retreat, they will cover the intervening ground at a gallop. I have known them, too, after having been disturbed in some comparatively small pool, in such rivers as the Umfuli and Umniati in Northern Mashonaland, to travel overland at least twenty miles during the following night in order to reach a larger sheet of water.

Without being disturbed at all, they are accustomed to wander at night in search of grass far from the rivers and lakes in which they spend the day. This is especially the case in the rainy season. In travelling from one pool to another, should these be separated by a big bend in a river, hippos make a bee-line across country. These hippo paths have been in use for

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very long periods of time, and are often carried over very rough, hilly ground. They make excellent roads for the traveller, being very broad, as hippos do not place one foot before the other in walking, but move the front and hind feet of each side of the body in two parallel lines. In muddy ground a double path is thus formed, with a little ridge in the middle, and where the hippo paths have been worn in the hard rock, along the Lower Umfuli River, to which I have already alluded, this feature has been exactly reproduced. As a rule, hippos live in herds of from half-a-dozen to twenty in number, though sometimes many more than the latter figure may be seen together. Still, such large congregations are not common. I have travelled for about a thousand miles along the course of the Zambesi, and for nearly the same distance on the Nile to the south of Khartoum. Nowhere on the latter river did I see more than a small number of hippos together, whilst on the Zambesi the only place where I met with these animals in really large numbers was just below the Kariba gorge. Everywhere, however, south of Khartoum, on the Nile, and from the mouth of the Zambesi to near its sources in Central Africa, hippos are present, although not really numerous, in many places.

The natives have hunted the hippopotamus from time immemorial, but have probably nowhere seriously reduced its numbers, except on such comparatively small rivers as those flowing from the watershed of Mashonaland to the Zambesi, where whole herds were sometimes killed by the co-operation of a large number of men, women and children, who, on a herd of hippos having been discovered in a suitable pool, would build strong fences across the river above and below it, as well as along the tops of the usually steep banks on each side, to keep the poor animals from leaving the water. Then the whole tribe would camp round the pool, keeping up big fires and beating tom-toms, and slowly starve the hippos to death. I have myself seen this process in course of operation, and on the occasion in question a herd of at least twenty hippos must have been destroyed.

On the larger rivers of Africa hippos are harpooned, a long line being attached to the harpoon, with a float at the end of it to mark the position of the animal after he has been struck. Every time he rises to breathe, fresh harpoons are fixed in him, until finally he succumbs from loss of blood. This is said to be a very exciting form of sport, as the wounded animal often attacks and smashes one or more of his adversaries' canoes. Many pitfalls are dug for hippos, and spearheads, heavily weighted, suspended

THE HIPPOPOTAMUS

from a convenient tree above their paths, across which a line is stretched, which, when disturbed, causes the spear-head to drop and plunge into their backs. But the hippo is a more intelligent animal than his somewhat heavy countenance would lead one to suppose, and is possessed, moreover, of a wonderfully keen sense of scent, and he does not often fall a victim to the traps of the natives. He suffers, however, to a considerable extent, in some parts of Africa from the fire-arms which large numbers of them now possess. They cannot shoot accurately enough with large-bore muskets to hit a hippo through the brain as he lies basking in the water, and they never waste ammunition in trying to do so, but they lie in wait below the wind, close to where hippos are accustomed to leave the river on their nightly rambles after food, and fire leaden bullets, or, more often—on the Lower Zambesi—lengths of iron rods, point-blank into their great bodies. Sometimes these penetrate to the heart or lungs, and the wounded animal, after rushing back into the river, soon dies, and his swollen carcass is found floating on the surface the following morning. When a hippo is shot through the brain in a lake or river, he at once sinks to the bottom. In cold weather, and if the water is deep, the carcass will lie there for about six hours before rising to the surface, but in a hot climate, and if the water is shallow, it will come up in three hours, or even less.

The meat of a young hippopotamus cow is really very well flavoured, though inclined to be tough. In South Africa these animals used to get into such high condition that their bodies were everywhere covered with a thick coating of fat. This fat is soft and white, and equal in quality to the very best lard.

As the hippopotamus is nearly always shot through the brain when in the water by European sportsmen, no weapon is more suitable for the destruction of these animals than a small-bore cordite rifle with solid nickel-covered bullets. If a hippo rises to the surface with the back of his head towards one or partially towards one, a shot at the root of the ear is immediately fatal; but if one of these animals is hit in the face, the bullet is more likely to miss the brain than not.

THE PIGMY HIPPOPOTAMUS

HIPPOPOTAMUS LIBERIENSIS

THE pigmy or Liberian hippopotamus is entirely unknown to the writer of these articles, and as the country in which it lives is difficult of access and very unhealthy, few British sportsmen have as yet penetrated to its habitat. The Liberian hippopotamus was, however, discovered and its existence made known to science by Dr Samuel G. Morton, of the Philadelphia Academy of Science, as long ago as in 1844; but from that time onwards until quite recently very little further information concerning the habits and life-history of this interesting animal was ever obtained, although a living specimen of the species was acquired by the Dublin Zoological Gardens in 1873. This animal, however, which was immature, died almost immediately after its arrival at the gardens, and its mounted skin is now in the Dublin Museum. Captain Murray, one of the very few British sportsmen who has ever actually seen a pigmy hippopotamus, shot a full-grown male of this species near Salon, on the Manwa River, about two miles from the Liberian frontier, early in 1908. This animal is said to have stood three feet one inch at the shoulders, and to have measured from nose to tip of tail six feet six and a half inches, the tail itself being one foot in length, and very much longer, therefore, proportionately than in *H. amphibius*. In 1912 a living pair of pigmy hippopotami, male and female, was received by the New York Zoological Society, and not long afterwards a fine male in excellent health and condition was acquired by the Zoological Society of London, which may now be seen in the well-known gardens in Regent's Park.

Speaking of the pair of pigmy hippos in the Zoological Park near New York, Mr William T. Hornaday says that the male, which he believes to be fully adult, stands only thirty inches high at the shoulders, and measures seventy inches in length from end of nose to base of tail, its weight being 419 lb. The female, which was believed to be only two years old when first brought to New York, stood at that time eighteen inches at the shoulders and weighed 176 lb.

Commenting on the very small size of the pigmy hippopotamus as compared with that of its giant relative, Mr Hornaday states that a

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full-grown bull of the common species might easily weigh as much as fourteen adult male pigmy hippos!

At first sight a pigmy hippo looks like a very young specimen of the common species, but its legs are longer and slighter in proportion to its size, and its skull is more rounded on its upper surface than in *H. amphibius*. Its feet, too, are very different, and it seems to walk on the two front toes alone, using the two posterior ones as props when standing. The pigmy hippo also lacks the very prominent eyes of its larger relative, a provision which enables the latter species to lie in the water with its whole body submerged and no part of the head exposed, with the exception of the nostrils and the prominent eyes.

The comparative length of the legs, the formation of the feet, and the absence of protruberant eyes would suggest that the pigmy hippo is more terrestrial in its habits than *H. amphibius*; and this is doubtless the case, though the smoothness of its skin seems to show that it must pass a good deal of its time in water, probably lying half submerged in shallow pools or streams with its head entirely out of water. It seems, however, to be an expert swimmer and diver, for Major Hans Schomburgk, who captured the two pigmy hippos now in the Zoological Park near New York, relates, in his account of the expedition in search of them, that "after a month's hard hunting, I at last had the luck to see a pigmy hippo. I was drifting down the river in my canoe late one afternoon, when I saw the animal trying to climb up the steep bank of the river. Before it had noticed us we were within ten yards. Not five yards from the canoe the little brute dropped back into the water and disappeared." Further on, Major Schomburgk says: "The greatest difficulty in hunting the Liberian hippopotamus is that, unlike their big cousins, they do not frequent the rivers. They make their home deep in the inhospitable forest, in the dense vegetation on the banks of the small forest streams; but, not satisfied with the protection the forest affords them, they enlarge the hollows which the water has washed out under the banks, and in these tunnels, where they are invisible from the bank, they sleep during the heat of the day."

The pigmy hippo is said never to congregate in herds, but to live in pairs, wandering at night through the forests it frequents, and browsing on the green foliage and fresh shoots of various bushes, as well as eating young grass and reeds. As a rule, it appears to be very wary and difficult to approach, and is not often seen, even by the natives living in the country

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it inhabits. Looking to the difficulties which bar the access of the European to the regions in which alone the pigmy hippopotamus can be found, and the uncertainty of ever even seeing one of these shy and retiring animals when its haunts have been reached, we shall probably never know much more of its habits than we do to-day.

AFRICAN WILD SWINE

NOT to mention the wild boar of Morocco and Algeria, which belongs to the European fauna, there are three distinct genera of wild swine which are typically African.

The bush pigs, seven species of which have been included in the genus *Potamochoerus*, are perhaps the most widely distributed.

The wart hogs (*Phacochoerus*), which have been divided into a southern and a northern race, have also a very wide range, but live in more open country than that frequented by the bush pigs.

The third genus (*Hylochoerus*) includes the recently discovered forest hog (*Hylochoerus meinertzhageni*) and the nearly allied species or local races *H. ituriensis*, and *H. rimator*, which are found in the great Ituri forest, and in the Ja valley in the Cameroons respectively.

Bush pigs are met with almost everywhere in Africa, from the Cape Colony to Abyssinia and Nigeria, wherever thick bush exists in the neighbourhood of water. Living in families like all other wild swine, they are almost completely nocturnal in their habits, and are thus seldom seen or shot by sportsmen. When frequenting jungles in the vicinity of native settlements, they are very undesirable neighbours, as they invade the cultivated grounds after dark, feeding on the maize cobs, and rooting up great quantities of sweet potatoes and ground nuts.

I have known instances where natives have had to abandon their settlements and move to another locality on account of the depredations of bush pigs.

In the eastern province of the Cape Colony and in Zululand and Swaziland, these destructive animals are systematically hunted and speared after having been brought to bay by trained dogs. This is said to be a most exciting form of sport, as when cornered an old boar is a most courageous animal, and will fight for his life with all the valour of his race. Many dogs are killed or badly injured, and not a few human hunters have been seriously wounded in these hand-to-tusk encounters.

Of all African wild swine, the wart hog is undoubtedly the most familiar to travellers and sportsmen, as it not only frequents more open country than the bush pigs, but is diurnal in its habits, whilst all species of the latter are almost entirely nocturnal. A European or an Indian wild boar is often spoken of as an ugly-looking customer, but either of these animals

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might well be called beautiful in comparison with the grotesque hideousness of an African wart hog. When one of these last-named animals is seen full-face for the first time, with its little eyes twinkling from the top of its head, the contour of its face marred by great warty excrescences, and a pair of long gleaming white tusks curling upwards from its jaws, it might well be mistaken for a most ferocious creature. But, in my opinion, the wart hog is the most timid, or, at any rate, the least aggressive of all the races of wild swine. At any rate, I never heard of one of these animals making an unprovoked attack on a human being even if encountered suddenly and unexpectedly at close quarters. The first thought of a wart hog is always flight rather than fight. If pursued and overtaken by dogs, it has, of course, to defend itself, and as the long sharp tusks in its lower jaw—the great curved upper tusks are only used for rooting—are very formidable weapons, it often inflicts great damage on its assailants. I have had many good dogs badly cut and some killed by wart hogs, but it never seemed to me to be a dangerous feat to spear one of these animals when brought to bay by dogs. I never saw one make a determined charge at one of its human antagonists even when it had shaken itself loose from its canine foes. I have never had an opportunity of spearing wart hogs from horseback, as I never possessed a pig-sticking spear, but I have ridden down great numbers of these animals on the open downs of Southern Rhodesia just for the fun of the gallop. My experience was that they ran at such a pace on first starting that a good horse, although he might keep near them, could not overtake them before they broke from a gallop to a trot. This they would not do till they had run at full speed for about a mile. When they commenced to trot they were done, and my horse soon shot past them. I never knew an instance of one turning and coming back at the horse; but if one galloped round and pulled up in front of them, they would come trotting on, and then, grunting loudly, make a dash at the horse, whose legs, no doubt, they would have gashed badly if he had remained standing still; but if one touched one's horse with the spurs so that it sprang to one side, I never knew a wart hog come round after it. The obstacle in their path having been removed, they simply held on their course.

I know that in the neighbourhood of Nairobi, in British East Africa, where the sport of pig-sticking is often practised in the orthodox Indian style, several horses have been cut about the legs by wart hogs, which animals, it is said, show great pluck, and make really savage charges.



WART HOG.



WART HOG, from South Africa.

Tip to tip, following curve, 34 inches.

In the Collection of Sir Edmund G. Loder, Bt.

AFRICAN WILD SWINE

My own experience with wart hogs was gained in South Africa, and after a long experience with these animals in that part of the continent, I have never been able to consider them as savage or dangerous. I may say that I galloped down one old wart hog boar on the Gwas N'gishu plateau, in British East Africa, and that particular animal acted exactly as I had always found wart hogs do in South Africa. I rode it down, and when it broke from a gallop to a trot, passed it, and pulled in my horse in front of it right in its path. It came trotting on, and when close to me commenced to grunt and came at my horse's legs. I spurred to one side, and the old boar never came round after the horse, but just passed behind it and kept on its course.

When pursued on horseback, wart hogs usually make for some aard vark hole, with the position of which they are well acquainted. But, no matter how hard they may be pressed, wart hogs will never bolt head-foremost down one of these holes. They invariably turn round and slowly and deliberately go down the hole backwards. No doubt they adopt this plan because aard vark holes being only just large enough to admit them, they fear that if they entered them head-foremost they might never be able to get out again. But this habit often costs them dear, for, although a wart hog may reach its earth some distance ahead of a mounted man, it can only back down the hole so slowly that there is often time to gallop up, dismount and put a bullet into its brain before it has got well into the hole. In South Africa wart hogs used to get into very good condition towards the end of the dry season by eating various kinds of roots, which they dug up in the damp ground on the margins of lagoons and swamps, and the flesh of a fat sow was looked upon as the best meat procurable at that time of year, when all other animals were in low condition. The meat is white like that of the domestic pig. We used to think sucking wart hogs, scalded and scraped, and then baked in a large iron pot, quite a delicacy, and the head of an old animal roasted whole in its skin in a hole in the ground or in an antheap was also in great favour. But in East Africa there is a prejudice against the flesh of the wart hog, and but few Europeans will eat it.

On the average, I think the wart hogs of East Africa have finer tusks than those found south of the Zambesi, though the longest known, I think, come from the latter country. The longest pair I ever shot myself measured thirteen inches over the curve outside the jaw.

It was not until 1904 that the first specimen of the great forest hog

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(*Hylochærus meinertzhageni*) was obtained by Captain R. Meinertzhagen on the slopes of Mount Kenia; but it has now been ascertained that these animals exist in all the forest regions of the high plateaux of East Africa, whilst nearly-allied species inhabit the Ituri forest and certain parts of the Cameroons. The forest hog is the largest of all African wild swine, and is quite as hideous in appearance as the wart hog, having immense warty excrescences below the eyes, and a very broad snout. It is covered all over with a thick growth of black hair, and carries tusks in the upper jaw which, though thick and heavy, are not nearly so long as in the wart hog. Living in thick forest, and being nocturnal in its habits, like the common African bush pig, the great forest hog is not an easy animal to become acquainted with, though it is said by the natives to be quite plentiful in the districts it frequents. According to native report, it is a far more savage animal than either the bush pig or the wart hog, as when disturbed it is said sometimes to take the offensive without further provocation. Personally, however, I am inclined to take such stories with the proverbial grain of salt.

WILD ASSES & ZEBRAS

IN Africa the *Equidæ* are represented by two races of wild asses and several species of zebras. The former are found in the deserts of Nubia, Somaliland and Gallaland, from the neighbourhood of the Nile to the Red Sea, whilst south of Abyssinia zebras of one species or another were once found throughout all the countries on the eastern side of Africa, as well as everywhere in the south-central and southern portions of the continent and also all over west and south-west Africa to the south of the equatorial forest regions, except in absolutely waterless areas. But if anyone will take a map of the whole of Africa, it will at once be seen that the range of all species representing the equidæ has always been confined to less than half the area of the whole continent. The valley of the Nile has ever formed a barrier which no species of either wild ass or zebra has been able to pass, and there can be no doubt that the ancestors of these animals made their way into Africa, not from Europe, but from Southern Asia. Speaking on this subject, the well-known American palæontologist, Dr Lull, has stated that: "In the Siwalik beds of India is found a one-toed Hipparion, and it has been suggested that the modern zebras may be the living descendants of this genus. It is certainly not in the line to the common horse, *Equus caballus*, which makes its appearance, however, in the Upper Pliocene beds both of Eurasia and North America—the climax of a long evolutionary progression."

Be that as it may, to-day zebras are only found in Africa. Grévy's zebra, whose ancestors may have been the last to leave Asia, is very distinct from all other species, or races, of the genus, and is only found in certain districts of Abyssinia and Somaliland and from thence southwards past Lake Rudolph as far as Neumann's camp on the Gwas N'yiro river in British East Africa; whilst almost at the extreme south of the continent in certain of the mountain ranges of the Cape Colony is found the animal known as the true or mountain zebra. The districts inhabited by these two very distinct species are separated by some 2,500 miles of country, throughout the whole of which a third species of zebra—known as Burchell's—was once to be found.

Burchell's zebra has been divided into many local races or sub-species which grade gradually from the brilliantly coloured Grant's zebra of British East Africa to the now extinct quaagga of the Cape Colony. This latter animal is, I am aware, usually considered to be a distinct species,

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but to my mind there is less difference between *Equus quagga*—the so-called true quagga—and *Equus burchelli*, the typical Burchell's zebra, than there is between *Equus burchelli* and *Equus burchelli granti* or Grant's zebra. In addition to all the above-mentioned zebras to be found in Africa, another species was discovered some few years ago near Mossamedes in Southern Angola by Mr G. W. Penrice. This zebra appears to be nearly allied to the mountain zebra of the Cape Colony, but differs in its habits from that species as it is an inhabitant of the maritime plains near Mossamedes, and the country further inland, which is not at all mountainous. Further south, however, in Kaokoland, in German South-West Africa, the same or a very closely allied species of zebra is found inhabiting hilly country, and both these forms may be looked upon as sub-species or local races of the true or mountain zebra.

Neither the wild asses nor the zebras of Africa are pursued with much enthusiasm by sportsmen, and the first-named animals are so shy and wild that whilst it is very difficult to get within shot of them on foot, if they are hunted on horseback they are so fleet and enduring that they can only be overtaken with great difficulty even by a really fast horse. However exhilarating such a gallop may be, it takes so much out of the horse that such sport is not likely to be often indulged in in a country where one's shooting ponies require the utmost care and consideration to keep them in good condition. Thus the wild ass is seldom shot, and is probably of less interest to the average sportsman than any other African game animal. On the other hand, very large numbers of zebras are annually killed, not only because the range of these animals is very wide, but also because throughout their range zebras of one species or another are always very plentiful, and being large and fleshy animals, they afford an easily obtained food supply for the large number of native attendants required for a shooting expedition in the interior of Africa. Where zebras have not been much hunted, they are not only very tame, but also very inquisitive. I found this characteristic very noticeable when hunting in Portuguese East Africa in 1892. Up to that time the zebras in that district had probably never before seen a man wearing a hat and clothes, and herds of these animals continually came up to within a hundred yards to have a good look at me. On one occasion, when I was resting on the side of an anthep, round the base of which my native attendants were sitting, a large herd of zebras came up to within fifty yards of me and stood there staring at us for a long time, only running off eventually when I got up and walked

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towards them. I once, too, saw a small herd of zebras come close to my three horses, which were feeding in the open not far away from my waggon. The whole herd first came to within fifty yards of their equine cousins, and then stood looking at them for some time. Then the boldest amongst them commenced a cautious approach, closely followed by its companions. After many halts, they came quite close up to the horses, and commenced sniffing at them with outstretched noses. Beyond looking at the zebras, my horses paid no attention to them, perhaps because they were quite familiar with these animals and well used to their smell. Twice, however, it has happened to me that my horses were disturbed by a herd of zebras galloping past them, and that they galloped after them, and kept with them for many miles. Zebras—at any rate, Burchell's zebras—although they can gallop at a great pace and are very enduring, are not extraordinarily fleet, and when trying to catch young foals I have on several occasions galloped right in amongst a herd. Twice when chasing herds of gemsbuck, which were followed by a number of zebras, I galloped right through the latter animals to get at the much fleetier antelopes in front of them. On all these occasions, however, I was mounted on a fast horse. The old name originally given to the least-striped form of zebra was "quagga," which in this country is usually pronounced "kwagger." The name, however, ought to be pronounced as if it were spelt "kwà hà," and was no doubt taken over from the Hottentots or Bushmen by the early Dutch settlers in South Africa, as it is an attempt to imitate the barking neigh, "Kwà, hà, hà, kwà hà-hà," which is common to all the different species or races of Burchell's zebras, amongst which I include *Equus quagga*. The call-note of Grévy's zebra is quite unlike that of Burchell's, being a kind of long-drawn mournful bray. Where I have met with these animals they were especially noisy at nights, though I frequently heard them braying by day as well. In South Africa Burchell's zebras are seldom heard neighing, except when one of a herd has been shot. Then, as the others run away, one or other of them may be heard calling constantly for some little time. But on the Gwas N'gishu plateau in British East Africa the race of zebras which is there met with, and which, by the by, is almost maneless, is excessively noisy. All day long their loud barking cry may be heard, whether they have been disturbed or not. In spite of the contention of many naturalists that zebras ought to be very inconspicuous animals, owing to the blending of their black-and-white markings into a neutral grey, this has not been my experience. If they were a forest animal, the

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coloration of zebras might render them more or less inconspicuous. But all over Africa zebras prefer to live on open plains, and although they are also found amongst scattered bush or in open forest, they are hardly ever met with in any kind of dense jungle. On an open plain in the bright African sunlight, their striped coats show up very plainly at two or three hundred yards. At longer ranges they look very white if the sun is shining on them, and very dark if the sun is behind them. If a herd of zebras is seen feeding with either gemsbuck or elands, they are always far more conspicuous than either of these unicoloured species of antelopes. As, however, the only animals which habitually prey upon zebras are lions, and as these carnivora hunt, as a rule, by night and by scent, the benefit which a zebra derives from the very remarkable colour of its coat must be of the slightest. The flesh of zebras is much esteemed by the natives of Africa, as these animals often become very fat, especially the mares. The fat is yellow, and nauseous-looking, but I have found the lean meat of a young zebra fried with bacon quite palatable, though there is a very general prejudice against it amongst European travellers and sportsmen. Zebras are usually supposed to be very untameable, but I have seen two or three which were perfectly tame, and even the half-broken animals which I saw in the stables along the old coach road through the Transvaal between Pietersburg and Tuli in 1893 did not seem to me to be at all vicious. The coloured drivers did not like them, as they said they had no heart, and would always refuse to pull, and lie down in sandy or muddy ground.

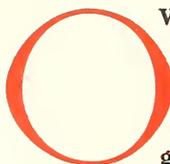
I have only met with Grévy's zebras near the southern limit of their range, along the northern Gwas N'yiyo river to the north of Mount Kenia. They are very much larger animals than Burchell's zebras, standing from 4 ft 9 in. to nearly 5 ft at the shoulder. What struck me most about them was the very large size of the head. The ears, too, are very large—both broad and long, and rounded at the top. Still, they are beautiful animals. When a Grévy's zebra is standing broadside on, the alternate black and white stripes of its coat, which are very narrow, can only be distinguished at a short distance, beyond which the animal appears unicoloured. With the sun behind it, or in shade, a Grévy's zebra appears to be of a uniform blackish brown or dark dun; but when the sun is shining full on one of these animals it looks almost white. When facing one, the broad black bands across the chest of a Grévy's zebra can be distinguished at a considerable distance.

WILD ASSES AND ZEBRAS

In habits I found Grévy's zebras very similar to Burchell's, and where the ranges of the two species overlap they are often found feeding together. The first Grévy's zebra I ever saw was a single stallion accompanying a large herd of Burchell's, and a few days later I saw three Burchell's zebras with a herd of twenty or thirty Grévy's. Further down the Gwas N'yiro river we met with Grévy's zebras almost every day, but they were usually either alone or only two together. I never met with anything but small herds of from four or five to eight or nine individuals. Often a mare would be alone with a big foal, but I also saw mares with very small foals. The country through which the northern Gwas N'yiro flows is for the most part covered with bush, which is sometimes very dense, and in places fairly open. Here and there, too, there are large open spaces, altogether free from bush. It appeared to me that Grévy's zebras were very partial to these open spaces, though I came across them in the open bush as well. But I never met with one of these animals in the really dense bush.

THE GIRAFFE

GIRAFFA CAMELOPARDALIS.

VERLOOKING the world from a height of some 16 to 17 ft, with its short, sloping body, long bushy tail and great length of neck and legs, the giraffe is surely as impressive and wonderful a form of life as any that has ever been evolved on this planet. Picture-books and zoological gardens have, however, made all inhabitants of civilized countries, from their childhood upwards, so used to the appearance of this strange animal that the many remarkable developments of its huge frame usually pass unnoticed. Everything about the giraffe—legs, neck, head and tongue—is long drawn out, which gives the animal special advantages in the struggle for life by enabling it to browse on the leaves of trees high above the ground.

The giraffe is sometimes spoken of as ungainly, but such an epithet could only be applied to one of these animals seen in the unnatural surroundings of a European zoological garden. To me, at any rate, whenever I have watched them feeding on the tall feathery-leaved acacias, to which they are very partial, or stalking slowly and majestically through the park-like country they very commonly frequent, giraffes have always appeared to be amongst the most graceful and beautiful of all wild creatures.

Although during the last few years as many as thirteen or fourteen differing forms of giraffe have been thought worthy of sub-specific rank, and have been accorded distinguishing names by British or German naturalists, Mr Lydekker (in "The Game Animals of Africa," page 354) tells us that, "with the exception of the very distinct Somali species, all the known varieties of the giraffe may be regarded as local races of a single specific type technically known as *Giraffa camelopardalis*."

All giraffes carry two horns on the summit of the skull, between the ears, but whilst in most of the northern and eastern races there is a third horn on the forehead as well, in all the races of South and South-West Africa this third horn is only represented by a thickening of the skull, which gives this part of the face a convex appearance.

In the Somali giraffe, which carries a frontal horn of fair size, the ground colour of the body is a rich chestnut red, covered with a network



Photo by I

GIRAFFE, from British East Africa.

[Hy. Dixon & Son.

GIRAFFE, from Eastern Sudan.

Shot by Mr W. N. McMillan.

PLATE VI.

THE GIRAFFE

of narrow white lines; and although there is a slight approximation to this scheme of colouration in the typical form of the northern giraffe, the latter is not nearly so striking in appearance as the first-named species, which is generally considered to be the handsomest of all the giraffes.

Old male giraffes are usually said to attain to a standing height of from 18 ft to 19 ft, and they may occasionally do so, but personally I do not believe that such measurements represent the average height of these animals. Writing of the northern giraffe in "The Great and Small Game of Africa," my old friend, the late Mr A. H. Neumann, put the average height of full-grown males at 16 ft and that of cows at 14 ft, and he further says: "And though I have not found these dimensions exceeded respectively in any of the southern specimens of either sex I have myself killed anywhere, I have read in the accounts of other hunters of considerably taller animals being obtained in parts of South Africa." Unfortunately, I only took the height of two male giraffes in Southern Africa. They were both old bulls, and, I thought, big ones, but the measurement with a tape line between two stakes, the one placed at the top of the horns and the other at the base of the forefoot, only gave 16 ft 6 in. in the one case and 17 ft in the other. Two years ago I measured a fine old giraffe bull of the so-called five-horned species on the Gwas N'gishu plateau in East Africa. This animal must have stood, according to my measurement, 16 ft 5 in. Another, which was certainly a larger animal—the length of its forefoot was $12\frac{1}{2}$ in.—was measured by a friend who made it 17 ft 8 in.; but as this measurement was taken in two sections, and was not, therefore, in a straight line, the animal's standing height must have been some inches less than this.

In South Africa some 120 years ago the giraffe was still plentiful immediately north of the Orange River, in Great Namaqualand, and from there it ranged without a break northwards through Bechuanaland and the Kalahari, to the province of Angola, as well as throughout the wooded country in the north and east of the Transvaal, and from thence eastwards as far as the Lundi river, and northwards through Western Matabeleland to the neighbourhood of the Victoria Falls. Many decades of hunting, first by mounted Europeans, and later by natives, both well mounted and armed with breech-loading rifles, have very much curtailed the range of the giraffe in this part of the continent; but it is quite a mistake to think that the indiscriminate slaughter of these most interesting animals is still going on in those regions, and that the species in that part of Africa

THE GUN AT HOME AND ABROAD

is in immediate danger of extinction. From the Limpopo northwards, in many districts of Western Matabeleland, throughout most of the Bechuanaland Protectorate, the Northern Kalahari, and from thence to the Province of Angola, giraffes are still to be found in fair numbers. North of the Equator the outlook is more hopeful still, for there are yet immense areas of country, from Somaliland to Senegambia, as well as in British and German East Africa, where giraffes are to-day excessively plentiful, and as in most of these areas they are protected from indiscriminate slaughter, there is no reason why they should not survive for a very long time to come. Few animals will be less affected by the advance of European settlement in Africa than giraffes, as, although they may be found in certain well-watered districts, they are more often met with in semi-desert tracts, where no European settlement can ever take place, and in which only a very sparse native population can live.

Although giraffes are occasionally killed by lions, they cannot be said to suffer very much from the attacks of these carnivora. One reason for this comparative immunity is doubtless their great size and strength, which must make them awkward animals for lions to kill; but, in addition to this, giraffes are often very abundant in semi-desert areas, such as the Kalahari regions of South-West Africa, into which during the dry season lions are not able to penetrate owing to want of water. They themselves are believed by most hunters to be able to exist for months together without drinking. This may be so, and, at any rate, it is certain that they are found at the driest and hottest times of the year in countries where water is entirely absent. It is conceivable, however, that whilst they are capable of going for many days without drinking, every herd may make periodical visits to some permanent water during the continuance of the dry season. When hunting on the Chobi in the early seventies of the last century, although I always found giraffes and elands plentiful in the desert country to the south of that river, yet herds of both species constantly came at night to drink in the river throughout the hot dry weather which precedes the rains, and later in the season, when all the valleys and hollows in the ground held water, it was a common sight to see giraffes drinking. Owing to the great length of their forelegs, it is not an easy matter for these animals to get their mouths down to the level of the ground, and, in order to drink, they are obliged to straddle their forelegs wide apart, which they do by a series of little jerks. Giraffes have seldom been heard to make any sound, and many people believe that they are physically incapable of doing so. My

THE GIRAFFE

friend Mr A. Blaney-Percival has, however, put it on record that he has heard a Somali giraffe make a noise sounding something like "Baa-a."

Although the giraffe is one of the most inoffensive creatures in the world, nevertheless, a breakneck gallop after a herd of these animals is an experience that will live long in one's memory. With their long, bushy black tails screwed up over their backs, they can run when pressed at a tremendous pace, crashing through thorn jungles and threading their way amongst thickly-growing trees in the most marvellous manner. They will judge the space between a horizontal branch and the ground to an inch, and if there is just room for their shoulders to pass beneath it, they will not swerve to avoid it or check their pace in the least, but will just duck their heads and necks at exactly the right moment and pass beneath the obstacle. Going at its best pace, a giraffe can only be passed by a fast horse, and then only when the ground is open and in every respect favourable to the latter. Through thorn bush and thickish forest, only a very good horse, with an experienced rider on its back, can live with a giraffe, and when the splendid quarry has at last been laid low, the successful hunter and his mount will often be a good deal the worse for wear. Of course, when giraffes are encountered in open ground, there is very little difficulty in riding up to and shooting one or more of them; but I have been more hurt in hunting giraffes through bad country than in the pursuit of any other animals. I have had some terrific falls, on one occasion knocking out three of my teeth, and on another splitting the bone of my right leg; and I have often returned to camp with my shirt—I never wore a coat—literally torn off me, and my arms and body seamed with cuts from the wait-a-bit thorns. But in those days one hunted not for sport or to secure a trophy, but to live. There were no game laws or regulations. One had to get meat for a large number of native followers, and as, where giraffes were to be found, other game was often very scarce, one had to do one's best to secure at least one of these animals, no matter how unfavourable the ground and the bush, where they were met with.

One of the usual and most interesting accompaniments of giraffe-hunting in South-Western Africa was the employment of Bushmen trackers. To watch these savages puzzling out fresh tracks amongst many others only a little older was always absorbingly interesting; and though they were without any power of scent, and relied upon their eyes alone, they seemed little inferior to dogs in the certainty with which they worked up to the game they were following. Often in the thick thorn bush or forest through

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which they were feeding, the hunted animals got the wind of their pursuers before it was possible to see them. They, of course, at once took to flight, and often got a fairly long start. When the Bushmen came to the spot where the giraffes had taken the alarm, they did not hesitate an instant, but, just calling out in Sechwana (as their own language was incomprehensible to a white man), "Sabeelee!" ("They've run!"), dashed off along the now open trail at their utmost speed. How they ran, those spare, half-starved sons of the desert! One had to put one's horse to a good canter to keep near them. Sooner or later the giraffes were sighted, for, not having been thoroughly alarmed, they would not run at any great pace, and would often stop to look behind them. "Tutla kio!" ("There are the giraffes!"), at last the foremost Bushman would cry, halting and pointing eagerly forwards; and if the white man performed his share of the day's work, it would not be long before the delighted and hungry savages were chattering and dancing round the prostrate form of a fallen giant. Giraffe-hunting is, however, now a thing of the past, as throughout their range they are everywhere specially protected. In the Sudan one may be shot for a payment of £20, in addition to the £50 which must be paid for a shooting licence. In East Africa the extra fee for a giraffe is £10, and in South Africa, where the animal is now royal game, I don't think one can be shot at all except under a special licence from the High Commissioner. The single isolated herd of giraffes which exists in the valley of the Luangwa river, in North-East Rhodesia, is also, very rightly, carefully protected.

Even in Gordon Cumming's time, giraffes were seldom met with in South Africa in herds exceeding twenty individuals; and in my own experience, some thirty years later, and a few hundred miles further north, I never saw a large number of these animals together, but there would be many small herds of from three or four to twelve or fifteen individuals in quite a small area of country. On the Gwas N'gishu plateau, in British East Africa, there are certainly not as many giraffes as there used to be some forty years ago in parts of what is now the Bechuanaland Protectorate; but in the first-named district, four years ago (in 1910), I counted thirty-two of these animals in one herd, and I heard that in other parts of the country as many as forty or fifty were often seen together.

I found the Somali giraffe (*Giraffa camelopardalis reticulata*) very numerous on both sides of the northern Gwas N'yiro river, below Archer's Post. One day, on climbing to the top of a high rocky hill, a few miles from the north bank of the river, I counted thirty-three of these

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magnificent animals. They were in herds numbering respectively twelve, eight, six and five; and besides these, two single bulls were also in sight. On another occasion, having come suddenly on a small herd of eight or ten Somali giraffes in thick bush, these ran past an outcrop of rocks into more open country, and, on climbing to the top of these rocks, I was astonished to see the whole valley below me full of giraffes. I tried to count them, but could not do so with absolute accuracy, as some of them were always moving, and they were spread over a good deal of ground. However, there were certainly over fifty of them. I think that this great assemblage of giraffes was composed of several small herds which had all been attracted to this one valley to feed on the leaves of certain trees which were abundant there.

Although, when they have been much hunted, giraffes become excessively wary, and, owing to the great range of vision which their height gives them, are then very difficult to approach in open country, in districts where they have not been much molested they are not only very tame, but sometimes curiously inquisitive. One day, whilst crossing a piece of country to the south-west of Mount Kenia, in East Africa, a magnificent old bull giraffe accompanied our caravan for miles. When he first saw us approaching, he was straight ahead of us, and he stood quite still looking at us until we had commenced to file past him at a distance of about two hundred yards. Then he walked slowly along, just keeping pace with us, then stopped until the whole caravan had passed; then cantered forward to the head of the line again, and walked with us once more. At last he went right ahead and disappeared in a tract of forest. A giraffe never trots, but breaks at once from a walk to a canter or gallop, the hind legs being brought out wide on each side of the forelegs.

When hunting on horseback, one was accustomed to gallop up to within about a hundred yards of a giraffe, pull up, dismount quickly, and put in a bullet as near the root of the tail as possible, which, owing to the shortness of the animal's body, would penetrate to the heart or lungs and soon prove fatal. A small-bore cordite rifle with solid nickel-coated bullets would answer quite well for giraffe-shooting in this way, as by the help of one's horse shot after shot could be obtained should the first not prove fatal. But to kill a giraffe on foot, it will be the first shot that counts, and it will therefore always be advisable in such a case to use a heavy weapon.

THE OKAPI

OKAPIA JOHNSTONI

ALTHOUGH Sir H. M. Stanley, Colonel Marchand and Dr Junker all heard vague reports as to the existence of a large animal in the dim forests of the Congo still unknown to science, they none of them succeeded in obtaining specimens of this strange creature, and the honour of first sending to Europe the complete skin as well as the skull of an okapi undoubtedly rests with Sir H. H. Johnston. The attention of this keen and observant naturalist had some months earlier in the same year (1900) been drawn to two pieces of striped skin worn by natives as belts at a Belgian post near the Semliki river. These he bought and sent home to Dr Sclater, the President of the Zoological Society of London at that time, who, thinking they had been cut from the hide of some unknown species of zebra, named the still unknown animal *Equus Johnstoni*. When, however, the first complete skin and skull of an okapi ever seen in Europe was submitted to Sir E. Ray Lankester, that great authority pronounced it to belong to a genus of mammals now extinct upon the earth, but related to the giraffe. The new animal was subsequently named *Okapia Johnstoni*, in honour of the man through whose acumen and energy it had at last, towards the close of the nineteenth century, been made known to European naturalists.

Since that time a number of skins and skeletons of this shy and retiring creature have been brought to Europe, and it is now known that the first example obtained by Sir H. H. Johnston, which was hornless, was a female, the males invariably possessing two small horns, which, though covered with skin, as in the giraffe, on the sides, show in adult specimens the bare bone at their summits.

The okapi appears to be related to, and may possibly be the lineal descendant of, one or other of certain large ruminants the remains of which have been discovered in the tertiary deposits of Greece and India. All these prehistoric forms and many missing links between them and their last-surviving relative have long since disappeared from the face of the earth, and only its own shy and retiring habits, added to the perpetual gloom and thick undergrowth of the vast equatorial forests in which it lives has saved the okapi from a like fate. From time immemorial the



OKAPI FROM EQUATORIAL FOREST, CONGO FREE STATE

From the Hagenbeck Collection.

Photo by Hy. Dixon & Son.

PLATE VII.



THE OKAPI

cunning forest dwarfs, armed with bows and deadly poisoned arrows, have taken toll of these, as of all other animals which came within their ken, but they did not specially value or chiefly hunt the okapi. Now, however, that a price has been set upon the head of this curious survival from a remote period of the world's history, the dwarfs, it is to be feared, will hunt it systematically, and as it does not seem to be anywhere numerous, and its range is limited, its complete extinction may possibly not be long delayed.

From a sporting point of view, the okapi is not at all an attractive animal. It is only to be found in districts where the climate is deadly to Europeans, and appears to be so abnormally shy that, although the light is said to be always bad in the gloom of the forests it frequents, it only leaves their deepest recesses to feed during the night, and if still found feeding after daylight and approached to within a distance of a few yards, it may yet remain invisible amongst thick foliage. This seems to have been the experience of all British and other European sportsmen who have endeavoured to shoot a specimen of this elusive animal. José Lopez, the resourceful Portuguese servant of the late Captain Boyd Alexander, after having discovered the feeding-ground of an okapi and vainly endeavoured to get a shot at it, found by examining its tracks that it always left the thick-leaved water-plants on which it was accustomed to browse under cover of thick bush, and then made its way back to the recesses of the forest, along a route which passed between two large trees. Here, therefore, he had a pit dug, which was carefully covered over and concealed, and in this pit before long he entrapped a fine male okapi, which is now in the collection of the British Museum. José Lopez, therefore, saw this okapi alive in the pitfall, and killed and skinned it himself, and up till to-day he is, I believe, the only human being other than a Congo forest dwarf who has ever killed one of these animals. Photographs of a living fawn of an okapi were, however, taken by an official of the Congo Free State at Bambili in that province, and exhibited at the meeting of the British Association in 1907.

But little seems as yet to be known of the life history of the okapi, but, according to native reports, it seems to be the most solitary of all ruminants, both males and females living for the most part alone, and only consorting together during the pairing season.

THE BUFFALO

BUBALUS AFRICANUS

MANY of the most notable species of African game animals have—or once had—a very wide distribution, but, with the possible exception of the elephant, none more so than the buffalo, if one may be permitted to lump under one designation all the many sub-species and geographical races into which that animal has been divided. There is, of course, a very great difference in outward appearance between the large black Cape buffalo and its various small red congeners which inhabit the forests of Nigeria and the basin of the Congo; but between the buffaloes of South Africa and those of East Africa and Uganda the difference is not great, and these latter are linked by intermediate forms with the flatter-horned races of the Nile Valley and Abyssinia, and these again by many other races with the small-horned dwarf buffaloes of West Africa. For the purpose of this article, therefore, I shall include all races of buffaloes under the term “African buffalo,” for, indeed, in habits and disposition these animals seem to be very similar in whatever part of the continent they may be met with. A century ago the buffalo was found throughout the coastal region of South Africa, as well as in the valleys of the Orange and Vaal rivers and in every other part of the country where the conditions were suitable to its requirements. These latter included besides pasturage and an abundant supply of water, shade from the heat of the sun, and thus in South Africa buffaloes were never found on the open, shadeless plains either of the Transvaal or Southern Rhodesia, but were very numerous throughout the valleys of the Limpopo and the Zambesi and all their tributaries. Nowhere could they ever have been more plentiful than they were some forty years ago in the neighbourhood of the Victoria Falls, and westwards from there, all along the southern bank of the Zambesi and up the valley of the Chobi.

The buffalo is often spoken of as the most dangerous of all African game, an animal of so morose and savage a disposition that he is always inclined to charge without any provocation, and so vindictive and cunning that if wounded, he will almost certainly, after having run off for a short distance, circle round and then stand motionless behind a bush, waiting to dash out on whoever may be following on his tracks. Now, let me say at



BUFFALO, from the Upper White Nile.

Greatest outside $38\frac{1}{2}$ inches; Width inside $35\frac{1}{2}$ inches;

Tip to tip $35\frac{1}{2}$ inches; Width of Palm 9 $\frac{1}{2}$ inches.

Shot by Sir Wm. Garstin, G.C.M.G.

PLATE VIII.

THE BUFFALO

once that I acknowledge the buffalo to be a very dangerous animal to follow into thick bush, or reeds, or long grass, once he has been wounded; but, although old buffalo bulls, when standing looking at one with outstretched noses and sullen eyes half hidden by their massive horns, certainly look very truculent, not to say menacing, yet I have never yet been charged by an unwounded buffalo bull, and I have encountered very many of these animals, possibly more than any other white man now living, since for many years together I lived and hunted in countries in which buffaloes simply swarmed, before they had been much hunted, and long before these fine animals were well-nigh exterminated by the terrible visitation of rinderpest.

Although I have never been charged myself by an unwounded buffalo, some few cases of such unprovoked attacks have come within my own knowledge. The most remarkable of such incidents is, I think, the following:

A young Boer hunter of my acquaintance, Petrus Potgieter, was riding after a herd of giraffes one day, nearly forty years ago now, in Western Matabeleland, when suddenly, without any warning, an old buffalo bull charged out from a patch of bush just as he was passing and dashed both man and horse to the ground. As Potgieter struggled to his feet, the buffalo turned and came at him, and, getting the end of its sharply crooked horn under his coat, tore it from his back and tossed it into the air. But whilst the infuriated animal's attention was engaged with his coat, the young hunter ran to a small tree and gained a place of safety. His valuable shooting-horse, however, died from the effects of the terrible wound it had received. Now, Potgieter himself told me that he attributed this unprovoked attack upon him to the fact that on the previous day another Boer hunter, old Petrus Jacobs, had chased a herd of buffaloes over this same ground and had wounded and lost an old bull, besides those which he had killed, and he had no doubt that it was this animal, rendered savage and morose by the ill-treatment it had received, which had so unexpectedly charged and overthrown him and his horse.

Another friend of mine was terribly injured by a buffalo bull which he never saw until it charged him at close quarters, and, striking him with the point of one of its horns, inflicted a wound from which it is a marvel that he ever recovered. In this instance also there is good reason to believe that this buffalo had been wounded by another white hunter on the previous day. A buffalo bull which has been mauled by, but made its escape from, a

THE GUN AT HOME AND ABROAD

lion or lions, would also undoubtedly be ready to charge anyone who was unlucky enough to approach it unawares in thick bush or long grass. I was once put into a tree myself by such an animal, and as it stood just beneath me, with its nose close to my feet, I was able to see that it had only recently been terribly bitten all over the neck and shoulders by lions, which, however, it had managed to beat off. In certain parts of South Africa lions were accustomed to prey constantly on the great herds of buffaloes, which were more plentiful than any other animals in the same districts. Buffalo cows, which were the usual victims, seldom, I think, escaped after once having been seized, but the enormously massive and heavy old bulls often did so, and I have shot many of them which had been frightfully mauled before they had succeeded in beating off their ferocious assailants. Speaking from my own experience, I would say that a wounded buffalo may always be expected to charge if closely approached, but I have only known one instance of one of these animals starting his charge from any considerable distance in open country. Usually, if a wounded buffalo is followed through open forest free from undergrowth, it will be difficult to approach, as it will be very much on the alert and will gallop off again and again whenever it becomes aware that it is being pursued. Once, however, let such an animal get into thick cover where it will be impossible for it to see its pursuer until he suddenly appears close to it, and in all probability it will immediately charge. When anyone speaks of a buffalo charging with lowered head, that is plain proof that he has never really seen one of these animals charging, as they invariably hold their heads high and come on grunting, with their noses outstretched and their horns laid back on either side of the neck. A charging buffalo comes on at an almost incredible rate of speed, when its very heavy build and short legs are taken into consideration, and with a short start it requires a good horse to keep in front of one. I have known an instance of a fairly good horse having been overtaken and thrown to the ground by a wounded buffalo cow. Should a buffalo make good its charge, it does not dip its head to strike a blow with its horns until its outstretched nose almost touches the object of its attack. In East Africa one hears of buffaloes, not only singly but in herds, coming up the wind to attack human beings whom they have scented from afar. It may be so; but the buffaloes I have myself met with in that part of Africa did not act in this way. I have had a very great deal of experience with buffaloes in the southern portion of the continent, and such incidents, I think I am correct in stating, never occurred there. I have certainly, on



Photo by]

BUFFALO, from Matabeleland.

[Hy. Dixon & Son.

Shot by Mr F. C. Selous.



Photo by]

BUFFALO.

[Hy. Dixon & Son.

Shot by Mr W. N. McMillan.

PLATE IX.

THE BUFFALO

several occasions, been nearly run over by a large herd of buffaloes which had been stampeded not far away from me by lions or native hunters, and upon two occasions have had such herds divide and pass quite close on each side of me as I stood waving my hat and shouting to keep them off. On those occasions, had there been a wounded or a particularly ill-tempered animal amongst those which passed nearest to me, it probably would have charged; so it may be my good luck that I have to thank for not having been attacked. But I have shot a good many buffaloes on horseback in places where I met with them outside the areas infested by the tsetse fly. On these occasions I galloped alongside of large herds, dismounting and firing as opportunity offered. Only once did an unwounded cow leave the herd and chase me off, coming at a tremendous pace and grunting loudly all the time.

In South Africa I never heard of any experienced hunter who thought that buffaloes were more dangerous than cattle as long as they were not interfered with. When in large herds they always ran off at the near approach of human beings, whether they saw or only scented them. Old bulls, certainly, would often hold their ground until very closely approached, but, except under the exceptional circumstances to which I have already alluded, they always ran off sooner or later. Once, however, a buffalo has been wounded and has got into any kind of thick cover, he becomes a most dangerous animal, as he will come to a halt behind the thickest bush he can find, where, when following on his tracks, it is not possible to see him until he has been very closely approached. Some buffaloes will then run off again, but usually they will charge if they see their pursuer very close to them. They are extraordinarily tenacious of life, and, holding their heads as they do, with their noses outstretched, a bullet would have to strike one in the mouth to reach the brain, whilst if shot in the throat or chest, they would still, though mortally wounded, be able to make good their charge and maim or kill their adversary before dying. Therefore, a buffalo is a most difficult animal to stop when charging, and no greater danger can be encountered in Africa than the headlong rush at close quarters of one of these powerful and determined brutes. No one likes to leave the tracks of an animal he has wounded, but no sportsman should follow a wounded buffalo into thick cover without fully comprehending the nature of the risk he is running.

I have shot a good many buffalo bulls quite easily with a '461 black-powder rifle, and consider, therefore, that any cordite rifle of '400

THE GUN AT HOME AND ABROAD

bore or upwards would be quite powerful enough for these animals. Solid bullets should be used, as although if a fair broadside shot could be obtained a buffalo could easily be killed with an expanding bullet, if shot through the lungs, high and well behind the shoulder, yet such a bullet might break up in the great muscles which cover the shoulder-blade, and so do very little damage where a solid bullet would have reached the heart.



Photo by

ABYSSINIAN BUFFALO.

(Hy. Dixon & Sen.

Shot by Mr W. N. McMillan.

PLATE X.

BUBALINE ANTELOPES

THE BLACK WILDEBEEST OR WHITE-TAILED GNU

CONNOCHÆTES GNU

PERHAPS the most distinctively African of all the larger ruminants are the various species of wildebeests and hartebeests comprised in the great family of the *Bubalidinae* or bubaline antelopes. These animals are all of large size, and both sexes carry horns. In outward appearance they would appear to be nearly related to animals of the bovine family, and this is especially the case with the wildebeests, which owe their name to their fancied resemblance to domestic cattle, "wilde beeste" being simply the equivalent in Boer Dutch for "wild cattle." The conformation of the cheek teeth in all these animals, however, as well as that of their hoofs, kidneys, etc., shows that they are more nearly related to the great family of antelopes. The species of gnu to which this name was first given by the early Dutch settlers at the Cape is that which is now known as the Black Wildebeest, or the White-Tailed Gnu (*Connochaetes gnu*). This animal was once very abundant on all the open plains and karroos of the Cape Colony from Cape Agulhas to the Orange River, and in all the open grass lands of the Orange Free State, and the high veld of the Southern and Western Transvaal, sometimes ranging beyond the south-western border of that territory into Southern Bechuanaland. I met with them there myself both in 1872 and in 1880.

By 1871—the date of my first visit to South Africa—black wildebeests had already been exterminated in every part of the Cape Colony with the exception of the district of Beaufort West, where they lingered on for some years longer. But at that time they were still to be seen in great herds in many parts of the Orange Free State and the Transvaal. In 1875 I saw very considerable numbers of these animals between Potchefstroom in the Transvaal and Harrismith in the Orange Free State, and again in 1876 I met with a good many in the Western Transvaal near the Hartz River. But at this time they were being shot down in every part of their range at a terribly rapid rate merely for the value of their hides, and I doubt if there

THE GUN AT HOME AND ABROAD

was a single black wildebeest left alive in any part of the Transvaal at the end of the year 1885. By that date the species would no doubt have already become absolutely extinct had it not been for the public spirit of two Boer farmers of the Orange Free State—Messrs Du Plessis and Terblanc—who carefully protected the poor remnants of the once great herds of black wildebeests which were still running on their farms. When, early in 1895, I visited Mr Du Plessis' farm—or, rather, vast cattle run, for it extended to over 50,000 acres—I was told that there were about three hundred wildebeests on the farm, and I do not think that this was an exaggerated estimate. At the same time there were quite as many on Mr Terblanc's ground near Kronstadt, and it was from these herds in the Orange Free State that the animals came which were introduced into Mr Cecil Rhodes' Zoological Park, and into Mr C. D. Rudd's smaller grounds near Cape Town. Mr F. E. Blaauw, the Dutch ornithologist, has also introduced some black wildebeests into Holland, where they have thriven exceedingly well on his estate near Amsterdam.

During the Boer War the black wildebeests which had for so many years been carefully preserved by the afore-mentioned Boer farmers were scattered in every direction, and a great many of them were killed; but after the declaration of peace the survivors seem to have found their way back to their original feeding-grounds, and when Mr W. L. Sclater (the then Curator of the South African Museum at Cape Town) visited the Orange River Colony some few years later, he found that black wildebeests were again on the increase. It is, therefore, to be hoped that this most curious and interesting animal—whose range never extended beyond the open country of the territories lying south of the Limpopo River—may, if it can never again become numerous in its old haunts, at least be saved for all time from complete extermination.

The black wildebeest or white-tailed gnu is a most remarkable-looking animal. The bulls, which stand nearly four feet at the shoulder, are of a very dark brown colour on the body, and quite black on the face. The horns, which are of a buffalo-like character, almost meet on the forehead in broad rounded bosses. From the centre of the head they sweep outwards and downwards, crooking sharply upwards again on each side of the face, the centre of which, above the great flat muzzle, is adorned with a growth of long black bristly hair, which, combined with the fierce-looking eyes, gives this animal a most truculent appearance. The neck is arched and maned, and the long bushy white tail very like that of a horse. In the cow



Photo by]

[Hy. Dixon & Son.

BLACK WILDEBEEST (MALE).
From the Orange Free State, South Africa.

Shot by Mr F. C. Selous.

PLATE XI.

THE BLACK WILDEBEEST OR WHITE-TAILED GNU

the horns are very much smaller and slighter, and all the features which distinguish the bull, though present, are less accentuated. As in all the species of wildebeests, there are four teats, whilst in all the hartebeests there are only two.

The black wildebeest once ran in large herds throughout its somewhat restricted range, just as does its relative the blue wildebeest to-day, wherever it is still plentiful. When approached on horseback, single black wildebeest bulls, or small parties of bulls, or certain members of large herds were accustomed to indulge in all sorts of extraordinary gambols, but they always took good care to keep well out of range of the rifles used in those days. They would gallop round in circles, often throwing their heels high in the air, sometimes running with their heads turned sideways and held close to the ground, and always whisking their long white tails in all directions. During these displays two bulls would often indulge in a sham fight, going down on their knees, butting their heads together, and, then rising to their feet, would prance off again. As soon as they found, however, that the approaching rider meant to interfere with them, they gave up playing and galloped off; and, personally, I always found black wildebeests not only amongst the fleetest, but also amongst the most enduring of all African antelopes. A wildebeest, to whatever species it may belong, should always be approached with caution when wounded, as it will be very likely to make a swift and sudden charge, which may have fatal consequences if unexpected, as it can use its formidable horns with great effect. I remember seeing a large dog belonging to a Boer farmer thrown high in the air by a black wildebeest bull. It was, however, only bruised and shaken, as it had been caught in the crook of one of the horns, and not impaled on its point.

THE BLUE WILDEBEEST OR BRINDLED GNU

CONNOCHÆTES TAURINUS

THE blue wildebeest is a much larger and heavier animal than its black relative, a big bull standing about four feet four or five inches at the shoulder. This species was not met with by the early South African hunters and travellers until the Orange River had been crossed. It never seems to have been numerous on the bare open plains of either the Orange Free State or the Transvaal, and probably only migrated into such districts from the west at certain times of year, as throughout South Africa the blue wildebeest is usually a bush-frequenting species, although in the dry season it will collect in large herds on certain circumscribed areas of open grass lands, which are, however, always completely surrounded or skirted by tracts of forest or bush. In Western South Africa the range of the blue wildebeest extended through Bechuanaland and the Kalahari, to Damara-land, Ovampoland and Angola. In the bushveld of the northern and eastern Transvaal, Zululand, Matabeleland and Mashonaland, it was commonly distributed, its range also extending through Portuguese East Africa, British Central Africa, North-Eastern and North-Western Rhodesia as far north as Kilimanjaro in German East Africa. In certain districts of Nyassaland, south of the Lake and east of the Zambesi, the blue wildebeests have very commonly a white mark across the face below the eyes, but as this white mark occurs also not infrequently in wildebeests met with in Portuguese East Africa to the south of the Zambesi, and as animals possessing such a white face mark differ in no other way either in habits or general appearance from their all-black-faced fellows, there seems to be no reason to separate such animals into a species distinct from the type form. The blue wildebeest of South-East Nyassaland, with a white mark across the face, has, however, been recognized as a distinct local race by Dr P. L. Sclater, under the name of *Connochaetes taurinus Johnstoni*.

In the blue wildebeest the general colour is a dark grey, with a number of vertical blackish stripes on the neck and shoulders, which give it a distinctly brindled appearance. The neck is very heavy, though not arched as in the black wildebeest, and is topped with a black mane which reaches to beyond the withers and falls over on each side. The throat is fringed



Photo by]

[Hy. Dixon & Son.

BLUE WILDEBEEST (MALE).
From the Bechuanaland Protectorate, South Africa.

Shot by Mr F. C. Selous.

PLATE XII.

THE BLUE WILDEBEEST OR BRINDLED GNU

with coarse black hair, as is the long tail on each side to its root, the long hair at its end being also thick and black. The horns are more buffalo-like than in the black wildebeest, as they grow out at right angles to the head, crooking sharply inwards and forwards, after reaching their greatest span, which sometimes, though rarely, may reach 32 or 33 inches. The horns of the blue wildebeest are, however, neither so broad nor so massive at their bases as in the black species.

In Africa, to the south of the Zambesi, blue wildebeests are usually found in bush country during the rainy season and the early part of the dry season; but later on, after the long summer grass has been burnt off, they gradually collect on the more open tracts in search of young grass, and on certain large open areas which occur here and there amidst the generally forest and bush-covered wastes of the northern portions of the Bechuanaland Protectorate, I have seen very large herds of blue wildebeests collected together during the latter part of the dry season. On the Mababi Plain, to the north-east of Lake N'gami, I saw herds of two or three hundred blue wildebeests during the latter part of 1879, and again in 1884. North of the Zambesi, in what is now North-West Rhodesia, it struck me that blue wildebeests lived more in open country than they are accustomed to do to the south of the river. In 1891 and 1892 I found blue wildebeests very plentiful in the country between the Pungwe River and Lake Sungwe, and in this district the horns of the bulls are much finer on the average than they are in any other part of South Africa. As I had not a sufficient number of porters to carry the heads of common animals, I only shot a few blue wildebeest bulls for meat, and without paying any attention to the size of their horns before shooting, but on measuring them, they all proved to span over 29 inches, and one was over 31 inches in width; whilst on the neighbouring high veld of Southern Rhodesia, where I have shot many blue wildebeests in my time, I have never seen a bull whose horns spread more than 28 in. In North-Western Rhodesia also the horns are small.

In the blue wildebeest, as with the black species, the female is very similar to but smaller than the male, with smaller horns. She has four teats.

Blue wildebeests are very sharp-sighted, and when on open ground are very difficult to stalk, though, being such large animals, they fall easy victims to sportsmen armed with modern long-range rifles. In the bright light of Africa a very ordinary shot, as soon as he has got used to judging distance fairly well, ought to be able, if he can rest his rifle on the side of

THE GUN AT HOME AND ABROAD

an antheap, to hit a wildebeest at 400 yards. When chased on horseback, blue wildebeests string out in a long line, usually being led by a cow. If pressed they can run at surprising speed, and they are also remarkably enduring. With their big heavy heads, and great humpy shoulders, a herd of blue wildebeests running through grass, three or four feet in length, remind one irresistibly of the pictures one remembers to have seen of herds of shaggy bisons galloping over the prairies of North America.

Blue wildebeests are always liable to be savage when wounded, and should not, therefore, be incautiously approached. I once saw one jump up and charge a native from a distance of quite twenty yards. Its strength, however, was only just sufficient to carry it up to him, for, after striking at him several times with its horns and hitting him some heavy blows on his outstretched arms, it sank to the ground again, and was soon dispatched. On another occasion, on the Pungwe River in 1892, a wounded blue wildebeest bull charged a friend of mine, and, in spite of the Martini bullet it received as it came on, struck his rifle out of his hands and dashed him to the ground. It was then, however, too weak to follow up the attack, and did not further molest him; but, after standing close to where he lay for some time, fell down and died.



Photo by I

H. Dixon & Son.

WHITE-BEARDED WILDEBEEST (MALE).
From Juga Farm, British East Africa.

Shot by Mr F. C. Selous.

PLATE XIII.

THE WHITE-BEARDED GNU

CONNOCHÆTES TAURINUS ALBOJUBATUS

ALTHOUGH the white-bearded gnu differs but little in appearance from the brindled gnu or blue wildebeest, in its habits it more nearly resembles the black wildebeest, as it is essentially an inhabitant of bare, open plains. It is a good deal lighter in colour than the common blue wildebeest, and the black vertical stripes, therefore, show more strikingly than in the latter species. The mane on the back of the neck is black, as is the hair of the tail; but the hair under the throat is white, and sometimes becomes very long and bushy. All the heads I have seen from the neighbourhood of the southern Gwas N'yiro River had far more bushy beards than those I saw on the Athi or Kapiti Plains, but this may have been due to the season of the year at which they were shot. There is another well-marked difference between the common blue wildebeest and the white-bearded gnu, and that is that in the latter the base of the horns is much thicker and heavier than in the former. In other respects, however, the two species are practically identical. On the Athi and Kapiti Plains the white-bearded gnus are excessively shy and wild, and they have every reason to be so, for they have been much worried by both good and bad shots armed with long-range rifles.

THE HARTEBEESTS

ALTHOUGH differing very considerably in outward appearance from wildebeests, the hartebeests show certain affinities to those animals, and have therefore been included with them in the great family of the *Bubalidinae*. Putting aside Lichtenstein's hartebeest (*Bubalis lichtensteini*), which is not nearly related to any other member of the group, all the other species can be divided into two classes, broadly speaking—those in which the horns are more or less widespread, and those in which they first grow straight or nearly straight up from the head and then turn sharply backwards.

Four species must be included in the first group, viz., the Tora, Swayne's, Coke's and Neumann's hartebeests; and in the latter the Bubal, the West African, the Cape and the Lelwel, with all its local races.

Curiously enough, there are neither wildebeests nor any species of broad-horned hartebeests to the west of the Nile, nor, with the exception of the Lelwel or Jackson's hartebeest, which is found over a limited area in the country to the north of the Victoria Nyanza Lake, are any hartebeests with horns of the narrow upright type found to the east of that great river, and it is more than probable, I think, that these came originally from the west, their ancestors having made their way south, together with the grass-eating white rhinoceroses, before their path was barred by the gradual spread eastwards of the great Congo forest. Lelwel hartebeests might then have worked round the Victoria Nyanza Lake to the north and east, whilst the white rhinoceroses, which would naturally have followed the open grass lands of the watershed between the tributaries of the Congo and the Zambesi, trended to the south-west.

The distribution of the fauna of Africa at the present day, and the fact that some of the most typical of African animals, such as the zebras, wildebeests, wide-horned hartebeests, and straight-horned oryx antelopes, are entirely absent from the whole of Africa to the west of the Nile, whilst the curved-horned oryx, the curious addra gazelle, the round-eared, large-horned eland, and the white rhinoceros are unknown in any part of the country to the east of it, would seem to show that Africa received the ancestors of its present fauna from two sources, Europe and Asia, and also that before the migration of the palæarctic fauna into Africa many distinct species in the various genera into which the antelopes and



Photo by]

[Hy. Dixon & Son.

NAKURU HARTEBEEB (MALE).
From Lake Nakuru, British East Africa.

Shot by Mr F. C. Selous.

PLATE XIV.

THE HARTEBEESTS

other animals have now been divided had already been evolved. The ancestors of the curved-horned oryx probably entered Africa from Europe to the west of the Nile, whilst a nearly-allied species entered North-East Africa from Southern Asia, and was the ancestor of all the various species of straight-horned oryx antelopes.

In like manner, I think, the African hartebeests of to-day are the descendants of at least three species which had already been differentiated from the parent stock before the first great migration of the northern fauna into Africa took place. Lichtenstein's hartebeest, which is entirely an East African species, probably came first, and undoubtedly entered Africa from the East, as also must have done the ancestral form or forms from which all the species of broad-horned hartebeests have been derived, for these are all entirely confined to Africa east of the Nile.

The ancestors of the narrow-horned hartebeests, as certainly I think, entered Africa from Europe to the west of the Nile. I am aware that Canon Tristram once reported that the Bubal hartebeest inhabited Palestine and Arabia; but no evidence in support of this statement has ever been received, and there seems little doubt that this animal has never existed there, nor, indeed, in any part of Africa to the east of the Nile.

THE BUBAL

BUBALIS BOSELAPHUS

THE Bubal is now only found in the interior of Morocco, Algeria and Tunis, to the south of the Atlas Mountains. It is the smallest of all the hartebeests, standing little more than three and a half feet at the shoulder. It is of a uniform sandy red in colour, with a black tail tuft and horns which, first diverging slightly from one another, again converge and then curve backwards. Compared with other hartebeests, the horns of the Bubal are very small, only measuring from twelve to fourteen inches in length. Though once common in European menageries, the Bubal is one of the least-known in its wild state of all African antelopes. Large numbers are said to be killed by the Arabs every year for the sake of their meat and their skins, but I am not aware that any European sportsman has ever penetrated to the haunts of this species. In habits it no doubt closely resembles all other species of hartebeests.

THE WEST AFRICAN HARTEBEEST

BUBALIS MAJOR

THIS antelope is very similar in appearance to the Bubal, but it is a much larger animal, standing sometimes as much as four and a half feet at the shoulder, with massive horns which have been known to measure as much as twenty-six inches in length. In general colour the West African hartebeest is of a darker shade than the Bubal, especially on the upper portions of the body, and besides having a black tail as in that species, it has also black markings on the front of both fore and hind legs. Its horns are of the same general shape as in the Bubal, but they are more heavily ringed, more massive, and have longer smooth points than in that species. There are, however, great individual differences in the horns of this species, some having a somewhat squat appearance, whilst others are so much longer that they much resemble the horns of the Cape species.

The West African hartebeest is not found anywhere in the thick forest belt which fringes the west coast of Africa, but in the more open country further in the interior it is widely distributed from Senegambia to the Equator. It is said to eschew open grass land and to prefer districts covered with a thin growth of bush or forest. Living in small herds of from half-a-dozen to twenty individuals, this hartebeest is said to be wary, like all its tribe, and to supplement very sharp sight with great powers of scent.

All who have hunted this species on horseback have found it a very fleet and enduring animal, and in these respects, as in general habits, it no doubt agrees with all other hartebeests.

THE LELWEL HARTEBEEST

BUBALIS LELWEL

THE typical Lelwel hartebeest, which I have myself shot in the East-Central districts of the Bahr-el-Ghazal province, is distinguished from the typical West African species principally by the length of the pedicle above the eyes, upon which the horns stand, and the more upright growth of the horns, which are also much less deeply ringed. But when in Khartoum in 1911 I saw two pairs of hartebeest horns, said to have been brought from the Bahr-el-Ghazal province, which were exactly intermediate between typical examples of the horns of the two species. These specimens probably came from the western part of the Bahr-el-Ghazal province, possibly from the neighbourhood of Dem Zubeir, and I cannot help thinking that further research in the vast wastes which lie between Senegambia and Nigeria and the Bahr-el-Ghazal will show that there are intermediate local races of hartebeests connecting *Bubalis Major* with *Bubalis Lelwel*.

In the latest work on the fauna of Africa, "The Game Animals of Africa," by Mr R. Lydekker, it is stated that the typical race of Lelwel hartebeest (*Bubalis Lelwel typica*), which inhabits the Bahr-el-Ghazal, Upper Nubia and Kordofan, has a dark face blaze. I only shot two of these animals myself—an old bull and an old cow—in the Bahr-el-Ghazal province, some 150 miles west of the Nile; but I saw several other headskins of recently killed animals of the same species, and also examined carefully a good many living hartebeests through my glasses, and in none of these examples which came under my notice was there a trace of black or dark brown on the face. A black face blaze seems to be a feature which occurs with some frequency amongst the local race of Lelwel hartebeests which inhabits the country to the west of the Victoria Nyanza Lake, and in the nearly-allied Cape hartebeest (*Bubalis cama*) it is always present.

In the horns of all the races of Lelwel hartebeests there are very great individual differences. In some the points beyond the backward crook turn inwards, in others outwards, whilst in others again they grow parallel to one another. Also the angle at which they grow beyond the crook varies very greatly. All these differences are also found in the Cape hartebeest.

Where I met with Lelwel hartebeests in the Bahr-el-Ghazal province, I found them running in small herds of from four or five to fifteen



Photo by]

[Hy. Dixon & Son.

JACKSON'S HARTEBEEST (MALE).
From the Gwas N'gishu Plateau, British East Africa.
Shot by Mr F. C. Selous.

PLATE XV.

THE LELWEL HARTEBEEST

individuals, one big bull with each herd. Occasionally I saw a single bull, and once two old bulls together. Once I saw an old bull hartebeest consorting together with a bull tiang, and at another time I found a young bull tiang living with a herd of some fifteen hartebeests.

In habits I found the Lelwel hartebeests of the district of the Bahr-el-Ghazal, where I met with them, far more like those of the West African hartebeest—as described by sportsmen familiar with the latter species—than those of the Jackson's hartebeests of British East Africa, which I understand are considered by naturalists to be merely a local race of *Bubalis Lelwel*; for whereas I found Jackson's hartebeests most plentiful on the bare open grass plains of the Gwas N'Gishu plateau, though they also inhabited the open bush of the surrounding districts, the hartebeests I met with in the Bahr-el-Ghazal were always in forest country, and I never happened to see any in open ground. All that I saw were alert and watchful and very keen-sighted. On the Gwas N'gishu plateau, where I saw thousands of Jackson's hartebeests (*Bubalis Lelwel Jacksoni*) in 1910, they were singularly tame, though the Topi antelopes inhabiting the same district were excessively wild. In this district the horns of Jackson's hartebeests grow very long, not uncommonly exceeding 25 in. in length. Here, too, they run in large herds of from fifty to a hundred individuals, and in any such herd there will be several big bulls. Like all hartebeests, those of the Gwas N'gishu plateau were fond of climbing on to the large antheaps with which the country is dotted. This they do primarily, I think, for the sake of the sweetness of the grass which grows on soil which has been worked by ants, for if a waggon be outspanned amongst such large antheaps, every bullock will soon be seen on the top of one or other of them, evidently revelling in the sweet grass; but when they have finished feeding, hartebeests will stand sometimes for a long time on such antheaps, as they fully realize the advantages such a position gives them in guarding against the approach of enemies.

THE CAPE HARTEBEEST

BUBALIS CAMA

THIS animal, the first of its genus to be met with by the Dutch settlers at the Cape in the middle of the seventeenth century, owes its name—which has now become the generic term applied to all its congeners as well—to the imagination of these people, and at the present day no one seems to know positively the exact signification of this compound word. Beest—bees, I believe, in low Dutch—means ox; of that there is no doubt; and “hart” means hard, and one old Boer with whom I was well acquainted a long time ago, and who was born in the Cape Colony very early in the nineteenth century, assured me that the “hart” in hartebeest—the Boers pronounce this word in the singular more like “harrtbees” than “hartebeest”—simply meant “hard” or “tough,” i.e., “difficult to kill,” the whole name signifying an ox-like animal which was very tenacious of life. But whether this is the true signification of the word “hartebeest” will never now be known with any certainty.

The Cape hartebeest (which, after the discovery of the Tsessebe, which was named the bastard hartebeest, came to be known as the “rooi” or red hartebeest) was once a very common species in all the western portions of the Cape Colony from Cape Agulhas to the Orange River, as well as in Griqualand, the Orange Free State, the Western Transvaal, the Kalahari, Bechuanaland, the Bechuanaland Protectorate and Basutoland, and in the upland districts of Natal and Zululand. To-day, however, it is undoubtedly the rarest of all the hartebeests, as it has been exterminated over the greater part of its range.

It is still found, however, in the parched and arid district known as Bushmanland in the north-west of the Cape Colony, and from there northwards through the Kalahari to beyond Lake N’gami. A few have also been preserved on enclosed farms in the north of Natal, and on ground belonging to the De Beers Company near Kimberley.

There can be no doubt, I think, that the Cape hartebeest is very closely related to the Lelwel, especially to the Jackson’s race of the latter species. The skulls of the two species are, I believe, indistinguishable, and the same may be said of the horns, as the same individual variations occur in both; so that although a considerable difference may be apparent between



Photo by]

[Hy. Dixon & Son.

CAPE OR RED HARTEBEEB (MALE).
From the Bechuanaland Protectorate, South Africa.

Shot by Mr F. C. Selous.

PLATE XVI.

THE CAPE HARTEBEEST

one particular pair of Cape hartebeest horns and those of one particular Lelwel, or Jackson's hartebeest, if a large series of each were brought together and the two series were then mixed, no British, German, or American naturalist would ever be able to separate them again unless the locality from which each skull had come had been previously marked on it. If, as I think will eventually prove to be the case, intervening forms should eventually be discovered connecting the West African hartebeest with the Lelwel, the probability is, I think, that all the species of hartebeests with horns which grow more or less upright and then crook sharply backwards—the Bubal, West African, Lelwel (with all its sub-races), and the Cape hartebeests, are descended from one common ancestor, which entered Africa in Pliocene or Pleistocene times from Southern Europe, whilst the ancestor of all the broad-horned hartebeests—the Tora, Swayne's, Coke's and Neumann's—came from Southern Asia, as did probably the ancestor of the aberrant Lichtenstein's hartebeest.

The Cape hartebeest is of a darker colour than any of its northern relatives, being of a rich ruddy brown on the back, neck and sides, with a patch of light yellow on the rump. There are also purplish-coloured patches on the shoulders and thighs, and a black blaze down the front of the face. The tail is black and more bushy than in any other species of hartebeest with which I am acquainted. The face is very long, as in the Lelwel hartebeest, as is the pedicle on which the horns stand. These are similar in size and shape to the horns of the Lelwel hartebeest, and may reach a length of 25 or 26 in., though anything over 23 in. is rare.

In former days, no doubt, the Cape hartebeest ranged over the open plains of the Orange Free State and the South-Western Transvaal, but in my own experience I have never met with it anywhere except in bush country, or in the near neighbourhood of bush country, such as the open ground near the great salt pans in the northern part of Khama's country. I have usually found Cape hartebeests living in small herds of from five or six to fifteen or twenty, but I have seen as many as fifty together. The bulls, both old and in the prime of life, are often met with alone, and I once found a bull hartebeest and a bull tsessebe living together. From my own experience, I should say that if the first Boers who hunted *Bubalis cama* with flint lock guns gave it the name of hartebeest because they found it a very hard beast to kill, they had every justification for doing so, for it is certainly very tenacious of life. Whether the Cape hartebeest can be classed amongst the true desert animals, which can live not only without

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drinking for long periods, but also without any obvious substitute for water, I do not know, but these animals certainly live in very thirsty countries, where it is not at all obvious where they obtain water. Along the old trader's road between Sechele's town and Bamangwato, which skirted the eastern side of the Kalahari, and along which in the dry season there was no water at all except in wells which had been sunk at long distances from one another by the natives, and at which no animals could drink, there were but few hartebeests, if any; but as soon as the rains fell, and the vleys held water, these animals became plentiful, and they came from the west! from the waterless Kalahari! Probably they had been living previously to the coming-on of the rainy season on the wild melons of the desert, which provide many species of animals with both food and water after all the pools which hold water in the rainy season have become dry.

Like all hartebeests, the Cape species is very keen-sighted and wary, but where it has not been much hunted it is not a difficult animal to shoot. When a herd of Cape hartebeests first takes alarm and runs off, it is advisable not to press them too closely, but just to follow them at a hand gallop. They will soon stop and turn round to take a look at their pursuers, and that is the time to dismount and take a standing shot. In fact, as soon as it is seen that the first of the herd is about to halt, one ought to jump to the ground and be ready for the bull, which will assuredly follow suit. As soon as one fires, the herd will run off again, but it will often stop again two or three times before finally galloping off. When pressed, an unwounded Cape hartebeest can travel at tremendous speed, exchanging its easy springy canter for a gallop, the pace of which few animals can equal. When running hard, a hartebeest lies low to the ground, with head and neck outstretched and held low, and it can maintain a great rate of speed for an indefinite time.

THE TORA HARTEBEEST

BUBALIS TORA

THE Tora hartebeest was the first member of the Bubaline genus in which the horns are widespread to be brought to the notice of European scientists, having been originally met with in 1863 by the Austrian naturalist-traveller Heuglin, who, however, thought that it was specifically identical with the bubal, so that it was not until ten years later that it was at length accurately described and named by Dr Gray.

In size the Tora is much on a par with the West African or the Lelwel hartebeest, a big bull standing over fifty inches at the shoulder. In colour the Tora is of a uniform reddish yellow, the tail and chin being black as in other members of the hartebeest family. The pedicle on which the horns stand is much less elongated than in the Lelwel or the Cape hartebeest, and the horns themselves, which first spread outwards and then curve upwards, seldom measure more than twenty inches in length.

The range of the Tora hartebeest is confined to Southern Abyssinia, as far east as Lake Zwai, and the neighbourhood of the Blue Nile and its tributaries above Sennaar.

Living on open plains, or amongst thin thorn scrub, and consorting together in herds of either a few or a considerable number of individuals, the Tora hartebeest is said to exactly resemble, in its habits and attributes, all other members of the genus to which it belongs, being equally keen-sighted and watchful, and equally swift and enduring, if chased on horseback, with any of its congeners.

SWAYNE'S HARTEBEEST

BUBALIS SWAYNEI

THIS species is undoubtedly very nearly related to the Tora, there being but very slight differences between the horn growth and skull measurements of the two forms. In colour, however, the two species differ very considerably, for whereas the Tora is of a uniform yellowish red, Swayne's hartebeest is on the body of a dark brown, with black patches on the shoulders and thighs, as in the Cape hartebeest, whilst the face is also black. From the few measurements which have been hitherto recorded by sportsmen, Swayne's hartebeest would also appear to be a somewhat smaller animal than the Tora. Swayne's hartebeest was first discovered some thirty years ago by Colonel (now Lieutenant-General) H. G. C. Swayne, after whom it was named, on the Haud plateau of Northern Somaliland. In this district this species seems to have once been extraordinarily plentiful, as Colonel Swayne speaks of it as "running in herds of five hundred, or sometimes even a thousand," and also states that "hundreds of single bulls would at the same time be scattered over the plains between the herds grazing or lying down." It is to be feared, however, that of late years these great herds of hartebeests in Somaliland have been very much thinned out. The range of Swayne's hartebeest appears to extend westwards into Southern Abyssinia as far as Lake Zwai, and southwards into the Galla country.

Though sometimes met with in the thinly-bushed country surrounding the high plains of Somaliland, Swayne's hartebeest seems to have always been by predilection an inhabitant of open grass land. It also appears to have been independent of water during the dry, rainless season. Like all other hartebeests, it is spoken of as being very fleet and enduring if pursued on horseback.

COKE'S HARTEBEEST

BUBALIS COKEI

AT the present day this species is undoubtedly the best known of all the hartebeests, as it abounds on the open plains of East Africa, which are intersected by the Uganda Railway, and is therefore seen in great numbers by all travellers and sportsmen who use that line.

In Coke's hartebeest, although the horns are of the same bracket shape as in the two preceding species, they are on the average shorter and thicker, the pedicle on which they stand being of moderate height. In general colour these animals are a bright red brown, fading to pale yellow on the inside of the thighs. They are considerably smaller than Jackson's hartebeest, which is the species whose range most closely approaches theirs.

The range of Coke's hartebeest appears to extend in East Africa from Usugara in German East Africa to the neighbourhood of the Tana River in British East Africa. Personally, I have met with Coke's hartebeest not only in very great numbers on the bare, treeless Kapiti and Athi plains, but also on the wooded slopes of the Machakos hills, and in the forest-covered country to the south of the Voi River, far away, I think, from any open ground; so that although this species of hartebeest is decidedly more of a plains than a bush frequenting species, it is capable of adapting itself to an environment of open forest and bush in which there are no open spaces of great extent. In British East Africa, Mr A. H. Neumann states that Coke's hartebeest is not found to the west of Lake Naivasha, and I certainly did not see any of these animals whilst walking from Lake Naivasha to Lake Nakuru in 1902. Nor did I see any Coke's hartebeests on the Laikipia Plateau, only a few Jackson's; but still there can be no doubt that the ranges of these two species occasionally overlap.

On the open plains to the east of Nairobi, Coke's hartebeests are the most numerous of all the animals to be found in that part of East Africa, often congregating in herds of over a hundred individuals. They may often be seen feeding in company with zebras, wildebeests, and Grant's and Thomson's gazelles. Although great numbers of them are annually killed by lions or shot by settlers or sportsmen, their numbers do not yet appear

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to be decreasing. Like all other hartebeests, Coke's are very keen-sighted, and as they have now got a very accurate idea of the powers of modern rifles, it is almost impossible to get near them in open ground, and in such places they can only be killed at long range.



Photo by I

[Hy. Dixon & Son.

COKE'S HARTEBEEST (MALE).
From British East Africa.

Shot by Mr F. C. Selous.

PLATE XVII.

NEUMANN'S HARTEBEEST

BUBALIS NEUMANNI

THIS species was first discovered by the late Mr A. H. Neumann near the north-east corner of Lake Rudolph, and appears to be a very local race, showing affinities to the Tora (*Bubalis tora*). Mr Neumann assured me himself that it is entirely isolated in the district where he met with it, no other hartebeest of any kind being found in the surrounding country for a very long distance.

These hartebeests were found by Mr Neumann "frequenting a tract of fairly open bush-country some little distance back from the lake-shore, where the ground rises gently in dry gravelly ridges covered with more or less scattered scrubby bush." This appears to be all that is known regarding the habits of this little-known species, which is, however, in all probability very similar to those of all other hartebeests. Mr Neumann shot two specimens, a male and a female, of the species of hartebeest which has been named after him, and the mounted head of the latter, as well as a cast of the skull and horns of the former, are now in the collection of the British Museum of Natural History at South Kensington.

Up till quite recently it was, I think, generally considered that the race of hartebeests frequenting the plains in the neighbourhood of Lake Nakuru in British East Africa was of the same species as that discovered by Mr Arthur Neumann near the north-eastern corner of Lake Rudolph; but the American zoologist, Professor E. Heller, after a comparison of the skulls of three hartebeests shot by Mr Kermit Roosevelt, near Lake Nakuru, with the type-specimen of Neumann's hartebeest in the British Museum, came to the conclusion that the former represent a race or species distinct from the latter, and he has therefore named the Nakuru hartebeest "*Bubalis nakuræ*."

When I first visited Lake Nakuru in 1902, and again early in 1903, I found a species of hartebeest numerous there which I was told was Neumann's, and which, indeed, has only recently been differentiated from that species. Of these hartebeests I shot and preserved seven specimens, five bulls and two cows. Of the five bulls three were fairly uniform in type, though they all differed to a certain extent one from another. But of the remaining two bulls, one appeared to me to be a hybrid between a Jackson's hartebeest and the local race, whilst the other resembled Coke's

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hartebeest in its horn growth. I met with pure Jackson's hartebeests not far from Lake Nakuru, but I did not see any Coke's hartebeests anywhere to the west of Lake Naivasha, and I therefore inclined to the view that the majority of the hartebeests I saw in the Nakuru district represented a pure race—which I thought was identical with Neumann's hartebeest—which had hybridized to a certain extent with Jackson's hartebeest. I have, however, lately examined a series of hartebeests' skulls from Lake Nakuru in the Natural History Museum at South Kensington, collected by Captain B. Meinertshagen, and another equally interesting series collected on the Gil-gil River by Mr C. S. Betton, and I now find it impossible to doubt that both Jackson's and Coke's hartebeests range into these localities, and have there either severally crossed with a local species (*Bubalis nakuræ*) or have hybridized amongst themselves, and so formed a new race, in which the horn growth in certain individuals shows a strong resemblance to that of Jackson's hartebeest and with others inclines just as strongly to the Coke type. In the majority of the hartebeests, however, found near Lake Nakuru there is a certain uniformity of type which is about intermediate between the two last mentioned species. How the question as to whether the Nakuru hartebeests are all hybrids, or belong primarily to a distinct race, which has hybridized on the one side with Jackson's and on the other with Coke's hartebeests, can ever be definitely settled I do not know, unless calves of both Jackson's and Coke's hartebeests are caught and reared, and then allowed to intermingle on an enclosed piece of land in British East Africa. The result of such an experiment would, I think, be most interesting.

Where I met with the Nakuru hartebeests there were two or three small herds frequenting the open plains lying between Lakes Nakuru and Elmenteita, and a large herd of forty or fifty, which was always to be found amongst the groves of large mimosa trees which skirted Lake Nakuru near the mouth of the Enderrit River. In size, colour and general appearance, they appeared to me to more nearly resemble Jackson's than Coke's hartebeests. However, Captain Meinertshagen's very careful investigations have clearly established the fact that in weight and size they are intermediate between those two species, which is a strong argument in favour of their all being hybrids. When I met with them they had not been much disturbed and were not very wild. In general habits they appeared to me to differ in no way from other species of hartebeests.

LICHTENSTEIN'S HARTEBEEST

BUBALIS LICHTENSTEINI

LICHTENSTEIN'S hartebeest, which was so named by the German naturalist, Dr Peters, after his countryman, Dr Lichtenstein, who travelled extensively in South Africa in the early nineteenth century, differs so much from all other species of the genus that the ancestor from which it is descended had probably already become differentiated from its nearest ally, the ancestor of the various species of wide-horned hartebeests, before either had left their original homes in Southern Asia. As Lichtenstein's hartebeest to-day has a more southerly range than any of the wide-horned species, possibly its ancestor was the first to enter Africa from the north-east, though the ancestors of the upright-horned hartebeests which probably came from Southern Europe and entered Africa to the west of the Nile, and subsequently spread to the Cape, may have been even earlier immigrants.

Lichtenstein's hartebeest is a large, heavy animal, standing over fifty inches at the shoulder. In fully adult specimens of both sexes the shoulders, back and upper part of the neck and sides are of a very rich, dark chestnut red colour, the head, together with the lower portions of the neck and sides, being yellow. There is a patch of pale yellow on the rump, which is very conspicuous when the animal is running, and the insides of the thighs and belly are also pale yellow. The upper part of the tail, the chin, and knees, and the fronts of both fore and hind legs are black. In both an adult male and a female which I shot in 1877, in the country to the south of Broken Hill, in what is now known as North-Western Rhodesia, there was a patch of purplish grey, about six inches in diameter, a hand's breadth behind each shoulder. In other specimens I shot in the same district these grey patches were absent, as they were also in all those I shot near the Sabi River, or in Portuguese East Africa.

The horns in Lichtenstein's hartebeest do not stand on a raised pedicle, and are broad and flat at the base, and unridged. They grow straight up from the head and converge before crooking sharply backwards. The backward-growing points are sometimes parallel, sometimes turn inwards, and at others sharply outwards.

On the eastern side of Africa, Lichtenstein's hartebeest ranges into German East Africa, and is also found all over British Central Africa and

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the high plateaux of North-Eastern and North-Western Rhodesia. South of Lake Nyassa it ranges through the Mozambique Territory to the Lower Zambesi, and at some period of unusual drought it must have crossed (together with the eland) whatever shallow stretches of water remained on the vast sand-bed which forms the bottom of this great river on its lower course, and then spread along the coast lands of South-East Africa, as far as the Sabi and Lunti Rivers. If only the European occupation of South Africa had been delayed, there is little doubt that Lichtenstein's hartebeest would have eventually extended its range very much further westwards.

Personally, I have never seen large numbers of Lichtenstein's hartebeests together, but have usually met with them in small herds of from five or six to ten or a dozen or sometimes fifteen or twenty.

They are sometimes found in perfectly open, treeless country, as on the high grass downs of North-Western Rhodesia, and when living in districts where thin forest alternates with open valleys, will usually be met with in the latter kind of ground.

They are always wary and very keen-sighted, and, when suspicious of danger, will be pretty sure to climb to the top of the nearest anthill—which may be from six to twenty feet in height—in order to obtain a good view of the surrounding country. When thus standing on the look-out, they hold their tails slightly raised, and if their suspicions are only slightly excited, but not fully aroused, will stand thus perfectly motionless for a long time; but immediately they get a better view of whatever it was which first aroused their suspicions, they will gallop off. When pursued on horseback, they go off at first at a light, springy pace, and will probably soon stop to look round at their pursuer, offering a good chance for a shot; but if pressed, they will be found as fleet and enduring as any other species of hartebeest. The meat of Lichtenstein's hartebeest is good, and these animals sometimes get quite fat. However, as their fat is hard, and clogs on the teeth and roof of the mouth as soon as it begins to cool, it is as well to remove all such fat from the meat, and fry it with bacon or the soft fat of the elephant or hippopotamus.



Photo by]

[Hy. Dixon & Son.

LICHTENSTEIN'S HARTEBEEST (MALE).
From Portuguese East Africa.

Shot by Mr F. C. Selous.

PLATE XVIII.

HUNTER'S HARTEBEEST

DAMALISCUS HUNTERI

THIS curious antelope, which was first discovered by Mr H. C. V. Hunter in 1888 to the north of the Tana River, about 150 miles from the coast, differs markedly in some respects from all other hartebeests. Especially is this the case as regards its horns, which in general appearance more nearly resemble those of the impala than those of any bubaline antelope. The face, however, although the horn pedicle is wanting, is rather long and hartebeest-like, as is the build of the body and the uniform rufous brown coloration of the hide. A well-defined white line passes across the forehead from one eye to the other, but no dark markings are present on any part of the limbs or face. In height Hunter's hartebeest stands about forty inches at the shoulder. Horns are present in both sexes, and attain a length of from twenty to twenty-six inches, the first ten or twelve of which are heavily ringed. There is very little difference between the horns of male and female in this species.

The range of Hunter's hartebeest appears to be more restricted than that of any other African antelope, as I believe that it has never been met with during the twenty-five years which have elapsed since its first discovery anywhere but in a small area of country near the north bank of the Tana, about 150 miles from the mouth of that river. It is said to live in small herds either in open country or amongst thin thorn scrub, but its habitat appears to be rigidly confined to a certain narrow region of grass-growing country which stretches northwards from the Tana River towards the Juba. The range of Hunter's hartebeest does not, however, extend as far north as the Juba River, and in the dry season it is only found in the near vicinity of the Tana. When Mr Hunter first met with the antelopes which have been named after him, their size and colour, and the shape of their horns, caused him to mistake them for impala, which antelopes are, however, not found on the lower course of the Tana River.

THE KORRIGUM, TIANG & TOPI ANTELOPES

DAMALISCUS CORRIGUM, *D. C. TIANG*, and *D. C. JIMELA*

ALTHOUGH the korrigum antelope (*Damaliscus corrigum*) of West Africa, the tiang (*D. c. tiang*) of Sennaar, Kordofan and the Bahr-el-Ghazal, and the topi (*D. c. jimela*) of East Africa have each been accorded specific rank, they may certainly be regarded from the sportsman's point of view as merely geographical races of one species, whose mode of life and habits are the same in every part of its range.

The korrigum, tiang and topi are large antelopes of a general reddish or purplish brown colour, with a black blaze down the face, and dark patches on the upper part of the forelegs, hips and thighs, which extend to the inner sides of the limbs, above the knees and hocks. In the western race the general body colour is redder than in its congeners of Central and Eastern Africa. The tail tuft is always black. These antelopes are sturdily built, and in height stand from forty-eight to fifty inches at the shoulder. The heavily ridged and slightly lyrate horns stand straight up from the head, first curving backwards and then forwards. These appendages appear to attain their maximum size in the korrigum of Senegambia and West Africa, where horns measuring over twenty-six inches in length appear to be not uncommon, and one specimen from Northern Nigeria is said to measure twenty-eight and a half inches. In the topi of East Africa the longest-known specimen only measures twenty-two and a half inches, and the average length is certainly not more than seventeen or eighteen inches. In the tiang of Kordofan and the Bahr-el-Ghazal the horns are, on the average, some inches longer than in the topi, though not quite so long as in the West African korrigum. The record tiang horns are those of a specimen shot by Major C. J. Hawker in Kordofan, which measure twenty-five and seven-eighths inches in length. In the Bahr-el-Ghazal province, however, twenty-two inches is a very good length for tiang horns.

In all the races of the korrigum, tiang or topi, both the males and the females carry horns, the only difference between them being that in the latter case they are slighter than in the former.

The typical topi (*D. c. jimela*) which inhabits the coast region of British East Africa between the Juba and Sabaki Rivers is the smallest of all the



Photo by]

[Hy. Dixon & Son.

TIANG ANTELOPE (MALE).
From Bahr-el-Ghazal Province of the Sudan.

Shot by Mr F. C. Selous.

PLATE XIX.

THE KORRIGUM, TIANG AND TOPI ANTELOPES

geographical races of the korrigum antelope, only standing forty-three or forty-four inches at the shoulder. The topi of the inland plateaux of East Central Africa is a larger animal, and in colour is intermediate between the typical topi of the coastal regions and the tiang of the Bahr-el-Ghazal and Kordofan. The range of the inland race of the East African topi, though discontinuous, extends north and south from near the southern border of Abyssinia, through British and German East Africa into the northern portion of British Central Africa, where it was met with by Sir Alfred Sharpe a few years ago in very large numbers. In habits, topi and tiang, and no doubt the korrigum of West Africa as well, are very similar to hartebeests. They live in open grass land or amongst scattered thorn scrub, or in thinly forested districts, and often congregate in very large numbers. In some parts of their range, as, for instance, on the Gwas N'gishu plateau, they have always been excessively wild and wary and difficult to approach even before they had been much harried by sportsmen armed with long-range rifles, but further south in the Sotik country they are reported to have always been very tame. In the Bahr-el-Ghazal I found the tiang antelopes very wild and wary, though there were exceptions to the rule. Like hartebeests, and, indeed, all animals which live in open ground, all the damaliscus antelopes of the korrigum group are wonderfully keen-sighted, and therefore very difficult to approach in such country. They are fond of standing on antheaps in order to obtain as wide a field of vision as possible over an open plain. If hunted on horseback, they will be found to be very fleet and enduring. I remember chasing a topi whose shoulder had been broken by a bullet. I was riding a fast horse, but although I put him to his utmost speed, I was unable to overtake the badly-injured antelope before I had chased it for at least a mile over a bare, open plain. Like all other African antelopes, the topi, tiang and korrigum are very tenacious of life; but, looking to their wildness and the open nature of the country they usually frequent, the most suitable weapon to use against them is certainly a small-bore cordite rifle with a low trajectory.

THE TSESSEBE OR SASSABY

DAMALISCUS LUNATUS

VERY similar in size, build and general coloration to the topi, tiang and korrigum, this fine antelope may at once be distinguished from all its nearest allies by the form of its horns, which are crescent-shaped, inclining first obliquely upwards and outwards, and then bending upwards and backwards, the short, smooth tips only turning slightly inwards and being widely separated. Both sexes carry horns, which in the males may be from fourteen to sixteen inches long, whilst in the females the average length is a little less and the horns are slighter.

In general colour tsessebe antelopes are of a rich purplish brown, and when in good condition their short, sleek coats show a beautiful iridescent sheen as the light plays over them. As in the korrigum, tiang and topi, there is a broad black blaze down the front of the face, and patches of the same colour on the shoulders, hips and upper portions of the limbs. The margins of the ears and the groin are white, while the tuft at the end of the tail is black. The young are of a uniform pale fawn colour.

The tsessebe was first discovered by the well-known African traveller, Dr William J. Burchell, in 1812, on a tributary of the Orange River, in what is now the Orange Free State, to the eastward of the Kalahari Desert and north of the 28 deg. of S. Latitude. Its range was at that time probably continuous over the whole of South and South-Eastern Africa to the south of the Zambesi, except in mountainous regions, and on the high, open plains of the Transvaal, where it never seems to have existed. In the western part of its range it does not appear to have extended as far north as the southern boundary of the Portuguese province of Angola. Up to a comparatively recent date it was supposed that the tsessebe was entirely confined to that part of Africa which lies to the south and west of the Zambesi River, but in 1898 Mr F. Smitheman met with large herds of these antelopes on some open plains near Lake Bengweolo, in North-Eastern Rhodesia. This, however, appears to be the only locality where the tsessebe exists in any part of Africa north of the Zambesi. It is worthy of remark that amongst these isolated herds of tsessebe antelopes in Central Africa the horns appear to attain to a greater length than is the case in any part of South Africa.



ALBINO TOPI, from Lake Rudolf.

Shot by Mr A. E. Butter.

PLATE XX.

THE TSESSEBE OR SASSABY

As a rule, tsessebe antelopes live in South Africa in small herds of from five or six to ten or fifteen individuals, old bulls often being met with alone; but in 1879, and again in 1884, I met with enormous herds of these antelopes, numbering, I am sure, several hundreds of individuals, on the Mababi plain to the north-east of Lake N'gami. Where the range of the tsessebe is co-existent with that of any race of hartebeest or wildebeest, the two species do not commingle, but individuals of the one may sometimes be seen accompanying herds of the other. Thus I have seen a single wildebeest bull with a herd of tsessebe, and a single tsessebe—probably a bull—with a herd of Lichtenstein's hartebeests. I also once met with a tsessebe and a Cape hartebeest, both bulls, living together in what is now the Bechuanaland Protectorate.

Throughout the greater part of its range in South Africa, the tsessebe is found in country more or less covered with scattered bushes or open forest, but on the high, open grass downs of Mashonaland, where there are no bushes or trees whatever, it used to be the commonest species of antelope. Wherever it lives, the tsessebe is, I believe, a grass-feeder, never browsing on the leaves of bushes even at the driest time of year. Where I have seen more tsessebe antelopes than anywhere else, on the comparatively small though perfectly open Mababi plain, these animals congregated in very large numbers from the surrounding country during the dry season in order to be able to drink daily at the edge of the great reed bed into which the Mababi River pours its waters and from which there is no outlet. The hartebeest-like appearance and habits of the tsessebe caused the old Boer pioneers who first encountered it to the north of the Orange River to give it the name of "bastard hartebeest," by which name it is still very generally known in South Africa. As a rule, tsessebe antelopes are very wary, and as they are also excessively sharp-sighted, they are difficult to approach, though their calculations as to what is a safe distance to maintain between themselves and a man with a gun must have been rudely upset of late years by the introduction of the modern long-range low-trajectory sporting rifle. Single bulls may often be seen standing on the large anthills which are so common a feature of African landscapes, and from which they are able to obtain a very extensive view over the surrounding country; when a herd has been disturbed, two or three of its members, after running off for some distance, will often climb on to as many anthills—which may be ten or fifteen feet in height—and from these coigns of vantage keep watch on the movements of their pursuers.

THE GUN AT HOME AND ABROAD

Where tsessebe antelopes had not been very much hunted, they were rather easy animals to shoot on horseback, as if one cantered quietly after them, they would often stop after having run a short distance, and so offer an easy shot as they stood looking at their pursuer. If pressed, however, they soon exchanged their light, springy canter for a gallop, the pace of which no horse that I ever rode after them could equal. When extended, they lie flat to the ground with head and neck stretched straight out. Writing on this subject more than thirty years ago, I expressed the opinion that without exception the tsessebe was the fleetest and most enduring antelope in South Africa. This may not be exactly true, but it is probably true to say that all the African antelopes of the numerous bubaline family are very fleet and enduring, and that if any of them equal, none excel the tsessebe in these respects.

The meat of the tsessebe is very good. Towards the end of the rainy season these antelopes often become quite fat, but the fat is very hard, and clogs on the teeth and gums whilst being eaten.

As hybrids amongst the larger mammals are excessively rare in a wild state, I may mention that in 1890 my friend, the well-known Boer hunter, Cornelis van Rooyen, shot an animal which there can be no doubt was a hybrid between a tsessebe and a Cape hartebeest near the Tati River, in Western Matabeleland. I obtained the skull and horns of this interesting animal from van Rooyen shortly after it was shot, and they are now in the collection of the British Museum of Natural History at South Kensington. This hybrid—an adult, but not aged, male—was by itself when shot, and in general coloration resembled a tsessebe, but its tail was like that of a Cape hartebeest, being much more bushy than in the tsessebe. The length of the skull is intermediate between that of a Cape hartebeest and that of a tsessebe, and the horns also partake of the characters of both its parents. Though slightly lunate in form, and ringed on the lower half as in the tsessebe, they stand nearly straight up from the skull as in the Cape hartebeest, and betray their relationship to that species by the three heavy rings just beneath the smooth tips, which, while wanting in the horns of the tsessebe, correspond exactly to the three heavy rings always present in the horns of the Cape hartebeest just at the place where these latter make their sharp turn backwards, nearly at right angles to the general direction of the rest of the horn.



Photo by]

[Hy. Dixon & Son.

TSESSEBE ANTELOPE (MALE).
From Southern Rhodesia, South Africa.

Shot by Mr F. C. Selous.

PLATE XXI.

THE BONTEBOK & BLESBOK

DAMALISCUS PYGARGUS and *D. ALBIFRONS*

ALTHOUGH these two species of antelopes, the bontebok (*Damaliscus pygargus*) and the blesbok (*Damaliscus albifrons*), are very nearly related, they may fairly be looked upon as two distinct species, as the differences between them are constant, and, their ranges being widely separated, there are no intermediate forms connecting the one with the other.

Ages ago, no doubt, the common ancestors of the bontebok and the blesbok had a continuous range over all the open plains of South Africa from Cape Agulhas to the territories now known as Bechuanaland and the Transvaal. The gradual desiccation, however, of the Karroo in the southwestern portions of the Cape Colony—of which there is ample evidence—no doubt caused the withdrawal of these animals to the north and east from those parched and waterless plains. Those individuals of the species, however, which had reached the neighbourhood of Cape Agulhas, where there is plenty of water, would have had no reason to move, and thus a portion of the race became isolated, and in course of time differentiated, from the original stock. This isolated race of antelopes confined within very narrow geographical limits on the plains bordering the sea near Cape Agulhas—the extreme southerly point of the African continent—was first met with by the early Dutch settlers at the Cape in the latter half of the seventeenth century, and named by them “bonteboks” because of the remarkable variety of colours shown in their coats, for “bont” in Cape Dutch signifies spotted or variegated. Some hundred years later, as the descendants of the early settlers spread to the north and east, they met with another species of antelope very closely allied and very similar in appearance to the bonteboks of the plains near Cape Agulhas, and these were at first also called bonteboks, though it was recognized that they were somewhat smaller, and differed in certain other respects from the first-discovered species. Immense herds of these near allies of the true bontebok were met with on the plains to the south of the Orange River in the eastern portion of the Cape Colony, and although all their wild denizens have long since disappeared, these plains are known to this day as the “bontebok flats.” It is quite certain, however, and no one who is acquainted with all

THE GUN AT HOME AND ABROAD

the evidence which has been collected on this subject disputes the fact, that the so-called bonteboks of the bontebok flats in the eastern province of the Cape Colony were true blesboks, and not bonteboks at all. In fact, the bontebok is an isolated species which has never existed within historical times anywhere except in the neighbourhood of Cape Agulhas; whilst its near ally, the blesbok, was an inhabitant of the plains to the south of the Orange River in the eastern part of the Cape Colony, and of all the open country to the north of that river in the territories now known as the Orange River Colony, the Transvaal and Bechuanaland.

The points of difference between the two species are not very great, but they are constant. In the blesbok the general colour is dark brown, the belly being white, and the neck of a deeper shade than the rest of the body. In the bontebok, the neck and the lower portions of the sides and the flanks are of a very rich dark brown, whilst the back is of a light lilac brown, and the belly snow-white. Over the coats of both species, when they are in good condition, a beautiful purple sheen wanders and shimmers as the light plays upon them. In the blesbok a semi-circular disc over the rump above the tail is lighter in colour than the rest of the body, and shows very distinctly when the animal is running end on, with the sun shining behind it; whilst in the bontebok the upper part of the tail and a semi-circular disc above it are snow-white. In the bontebok, too, the legs from the knee and hock downwards are almost pure white as a rule, though in some specimens there is a good deal more brown extending from the hoofs up the front of the legs than in others; whilst in the blesbok only the insides of the legs are white. The white blaze which runs down the face in both the bontebok and the blesbok differs somewhat in individuals of both species. In the bontebok the white blaze down the face below the eyes is, I believe, always connected with the white patch on the forehead by a white streak, the breadth of which, however, varies. In the blesbok examples also sometimes occur in which the white patch on the forehead is connected with the white blaze down the face, but as a rule these two white areas are separated by a band of brown of varying width. In the young of both the bontebok and the blesbok the blaze down the face is dark brown instead of white. The horns, too, of the two species, whilst practically identical in size and shape, are in the bontebok always quite black, whilst in the blesbok they are of a greenish colour. In general appearance the two species bear a very close resemblance to one another, being, as Sir Cornwallis Harris very truly remarked, "equally robust, hunchbacked and broad-nosed,



RECORD BLESBOK, from South Africa.

Length on front curve $18\frac{1}{2}$ inches: Circumference $5\frac{1}{2}$ inches: Tip to tip $12\frac{1}{2}$ inches.

In the Collection of Sir Edmund G. Loder, Bt.

THE BONTEBOK AND BLESBOK

and rejoicing in the same whimsical and fine venerable old-goatish expression of countenance." Good specimens of males and females of both species may be examined side by side in one case in the Mammalia Gallery of the British Museum of Natural History at South Kensington, where the points of resemblance and the differences between the two species can at once be seen. On the average, I think, the bontebok is a little larger and heavier than the blesbok. The male specimen of the former now in the collection at the British Museum, a fine, full-grown animal in good condition, weighed exactly two hundred pounds as it lay, whilst the male specimen of the latter—also a fine animal of its kind—weighed one hundred and eighty pounds as it lay, and one hundred and thirty-five pounds clean. Two other male bonteboks—also, apparently, full-grown animals—shot at the same time as the above-mentioned specimen, weighed respectively one hundred and sixty-six pounds and one hundred and sixty pounds as they fell. From these data it would seem, therefore, that although heavy blesboks may weigh more than average-sized bonteboks, the finest specimens of the latter species will outweigh the heaviest blesboks. In both species the horns attain, on the average, to a length of fifteen or sixteen inches in the males, whilst in the females the horns are somewhat shorter, and much lighter. Had it not been for the protection which has long been afforded it by the Cape Government, there can be little doubt that the bontebok, owing to the very small area of its range, would long since have disappeared from the face of the earth. Even in spite of stringent laws, this dire calamity might have happened had it not been for the action of Mr Alexander Van der Byl, who, in 1864, whilst enclosing the extensive area known as Nachtwacht Farm, near Bredasdorp, managed to drive something like three hundred bonteboks within the enclosed space. There they have been carefully preserved and protected ever since, and though they have not increased in number, it is said that they are not decreasing. Another herd of bonteboks is preserved on a neighbouring farm belonging to Dr Albertyn, whose nephew has now become the owner of Nachtwacht. In addition to these bonteboks now carefully preserved on enclosed farms, there are also still a few surviving on the unenclosed plains, both in the neighbourhood of Bredasdorp and near the village of Swellendam. It is doubtful, however, I think, whether more than three hundred bonteboks are in existence to-day. The calves are dropped in September and October, and, as with all other African antelopes, gain strength so rapidly that when only a few days old they are so fleet that

THE GUN AT HOME AND ABROAD

they cannot be run down on horseback. No doubt, before the advent of Europeans in South Africa, bonteboks once congregated in large droves, but to-day they can only be seen in small herds of from half-a-dozen to twenty or thirty individuals. They are not very wild, and will allow a cart and horses to be driven within a couple of hundred yards of them before taking alarm; but they will not allow a man on foot to approach within three hundred yards of them on open ground. They gallop at great speed, lying flat to the ground with head and neck outstretched, and are possessed of great endurance. In these qualities they exactly resemble their near relation, the blesbok. This latter animal, once undoubtedly the most numerous of all African antelopes, has been long exterminated over the greater portion of its original range, and some twenty years ago had come very near to complete extinction. At that time, the only blesboks in existence were a few herds preserved by Dutch farmers in the Orange Free State and the Transvaal, and of these a large proportion were destroyed during the continuance of the Boer War. Since that time, however, the surviving blesboks have been carefully preserved and have multiplied exceedingly, and as they have lately been introduced into many enclosed areas in the Orange Free State and Transvaal they are likely to increase in numbers rather than to decrease, and, at any rate, the survival of the species seems assured. But how different is the status of this fine antelope in South Africa to-day—the carefully-protected existence of a few herds on enclosed land—to what it once was, let the following extract from the diary of the great hunter and traveller, Gordon-Cumming, bear witness: “When we came to the Vet River, I beheld with astonishment and delight decidedly one of the most wonderful displays which I had witnessed during my varied sporting career in Southern Africa. On my right and left the plain exhibited one purple mass of graceful blesboks which extended without a break as far as my eyes could strain: the depth of their vast legions covered a breadth of about six hundred yards.” Elsewhere this observant naturalist-hunter, in referring to blesboks, observes: “Throughout the greater portion of the year they are very wary and difficult of approach, but more especially when the does have young ones; at that season, when a herd is disturbed, and takes away up the wind, every other herd in view follows it, and, the alarm extending for miles and miles down the wind to endless herds beyond the vision of the hunter, a continuous stream of blesboks may often be seen scouring up-wind for upwards of an hour and covering the landscape as far as the eye can see.”

Photos by]

SABLE ANTELOPE, Male.

From Southern Rhodesia.

[By: Dixon & Son.

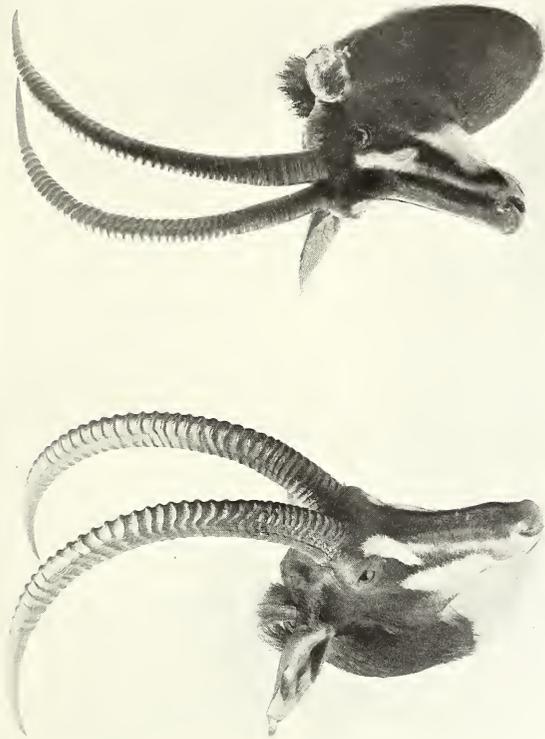
RECORD SABLE ANTELOPE, Female.

Length on front curve $39\frac{3}{8}$ inches;

Circumference $6\frac{1}{2}$ inches; Tip to tip $6\frac{3}{8}$ inches.

Shot by Mr F. C. Selous.

PLATE XXIII.



THE BONTEBOK AND BLESBOK

These most interesting descriptions of wild life in South Africa were written in 1848, and from all I have heard, despite the great numbers of blesboks which were annually killed, but little diminution was apparent in their legions until after 1865. Subsequently to that date, however, the value of their skins for export to England, coupled with the fact that the Boer colonists were by that time very generally armed with long-range breech-loading rifles, brought about the extermination of the blesboks throughout the greater part of their range in a surprisingly short space of time. When I first visited South Africa in 1871, vast numbers of blesboks certainly still existed on both sides of the Vaal River, but some fifteen years later practically none were left anywhere, except on a few farms in the Orange Free State and the Southern Transvaal, where they were accorded a measure of protection. Whilst travelling from Potchefstroom in the Transvaal to Kronstad in the Orange Free State early in 1875, I met with very large numbers of blesboks. No doubt the herds I saw were small compared with those which have been described by Gordon-Cumming and other pioneer hunters and travellers in South Africa, yet there must often have been a thousand—possibly several thousands—of them in sight at one time.

Two years later, in the neighbourhood of the Hartz River, in the South-Western Transvaal, I for the last time saw blesboks collected together in large numbers. They were then, however, being shot down for the sake of their skins with pitiless persistence, and by 1885 but few were left anywhere but on a few farms where they were protected. The furthest point north where I ever met with blesboks was in the province of Marico, in the north-west of the Transvaal, on the plains to the south of the Dwarsberg. Like all their congeners of the great family of the bubaline antelopes, blesboks are very keen-sighted and wary, and, therefore, difficult to approach on the open ground they frequent, whilst if pursued on horseback, their speed and endurance will be found to be very great.

THE SABLE ANTELOPE

HIPPOTRAGUS NIGER

THOUGH its rich coloration, long shaggy mane, and large and beautifully curved horns must always make the head of a sable antelope bull one of the most coveted prizes to be won by a sportsman in the hunting-grounds of Africa, yet the head alone, however well mounted it may be, can never give an adequate idea of the noble bearing of this truly magnificent animal, when seen in all the pride of its living strength and beauty.

This handsome species was first brought to the notice of naturalists by Captain (afterwards Sir Cornwallis) Harris, by whom it was discovered in the north-west of what is now the Transvaal State.

To the north and east of this district the range of the sable antelope was subsequently found to extend throughout the country between the Limpopo and the Zambesi, and far to the north of the latter river. It is found, too, along the Uganda railway in the hills near Maji Chumbi, and to the south of that district as far as the northern border of German East Africa. Throughout the greater part of both German and British East Africa, however, it does not exist, though numerous in most parts of British Central Africa, and also in North-Eastern and North-Western Rhodesia. But in no part of Africa to which the range of this splendid antelope once extended was it ever as numerous, I think, as it used to be in the country now known as Southern Rhodesia. There it was certainly the commonest of all antelopes, and in the districts it principally frequented several herds of these beautiful creatures might often be met with in one day. As a rule, sable antelopes run in herds of from ten to twenty individuals, but I have often seen thirty or forty together, and in August, 1895, I counted eighty of these antelopes as they crossed an open valley near the Ingwenia River, in Northern Matabeleland. In my own experience, however many sable antelope cows there may be in a herd, there will only be one big bull with them. This would seem to show that male sable antelopes are very jealous and pugnacious animals, though I never remember to have shot one which showed any scars of wounds which could have been inflicted by one of its fellows. Wherever sable antelopes are plentiful, single bulls will be commonly met with, and although some of these will be old animals with horns much worn down, others appear to have only just reached their

SABLE ANTELOPE

PLATE XXIV.

THE TABLE ANTELOPE

ALBERT GARDNER

I remember the first time I saw the Table Antelope in the mountains of the Colorado Desert. It was a fine specimen of the species, and I was very much interested in it. I had never seen one before, and I was very much interested in it. I had never seen one before, and I was very much interested in it.

The Table Antelope is a very common species in the mountains of the Colorado Desert. It is a very common species in the mountains of the Colorado Desert. It is a very common species in the mountains of the Colorado Desert.

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H. Aldwell
1913

THE SABLE ANTELOPE

prime. I once came on four old sable antelope bulls together, but on no other single occasion have I ever seen anything but solitary animals. During the rainy season in the interior of South Africa, sable antelopes, like elands, often break up into small herds and disperse themselves over the country. As the grazing is good at this time of the year, they get into very fine condition, and their coats are then at their best. The bulls and the old cows—to the South of the Zambesi—become almost absolutely black, and the mane grows so long that on the shoulders it falls over to either side. At the same time the hair on the neck grows thick and long, and is rendered glossy by an oily secretion from the skin. But as the dry season comes on, and the grass becomes less succulent and nutritious, sable antelopes rapidly lose their high condition and all the long hair falls from their necks, which then become reddish brown in colour, and often show large patches devoid of any hair at all. The horns of sable antelope bulls are usually much curved, and beautifully ringed from the base to within a few inches of the point. South of the Zambesi forty inches is a good average length for sable antelope horns, and few are likely to be met with there exceeding a length of forty-five inches over the curve. In North-West Rhodesia, however, they grow larger and often reach a length of forty-eight inches, and sometimes even exceed fifty inches. Indeed, there has recently been brought home from the country to the west of the Upper Zambesi a pair of sable antelope horns which measure nearly fifty-five inches over the curve. Wonderful, however, as this measurement appears to be to those who have only met with sable antelopes in the more southerly portions of their range, there is, nevertheless, in the Natural History Museum at Florence, in Italy, a single sable antelope horn which tapes sixty-one inches. As I measured this phenomenal horn myself, I am sure there is no mistake about its length, and the horn is certainly that of a sable antelope, though where it came from no one knows. In sable antelope cows the horns, as a rule, have but little curve. They grow to a length of from thirty to thirty-four inches, but I have shot one with beautifully curved horns measuring thirty-nine and a half inches in length.

To the north of the Zambesi sable antelope cows are much redder than they are to the south of that river, and never, I believe, turn quite black.

Unless they have been much hunted, sable antelopes are singularly bold and fearless animals, and as they frequent forests where there is little or no undergrowth and the open glades intersecting such forests, they must be, I should think, very easy animals to shoot with modern small-bore

THE GUN AT HOME AND ABROAD

low-trajectory rifles. In Mashonaland we used to hunt them, as a rule, on horseback. Except in the case of cows heavy with calf, they run well, and I have never been able to run down, or gallop past, a single bull. If chased by dogs, a bull sable antelope, when alone, will soon come to bay. If there is water near at hand, it will always make for it and stand in the middle of a pool where no dog can approach it without swimming. When unwounded, sable antelopes fight standing, but if badly hurt they will lie down and still continue to use their formidable horns with tremendous energy. Plucky dogs which are not used to these animals, and which run in and seize them in the flank or from behind, are certain to be either killed or badly wounded, as soon as they take hold, by a sweeping blow from the long curved horns delivered with extraordinary rapidity and accuracy. I once had four valuable dogs killed and four others badly wounded in less than a minute by a wounded sable antelope bull. I have never been able to bring a sable antelope bull to bay with dogs when it was with a herd of cows. When the dogs came up barking near the herd, the bull, or sometimes a cow, would now and then turn on them for a moment, but always again rejoined the herd. A wounded sable antelope should never be rashly approached, as although as a rule it will only stand snorting defiance, and allow one to come quite near without charging, it may, on the other hand, charge desperately. One of Lo Bengula's hunters was killed by one of these animals to my own knowledge, and a wounded bull once charged and chased my horse for quite a considerable distance. I was trying to drive it to my camp, and it twice turned and chased me. This, however, is the only experience of the kind that ever happened to me, and I have killed a great number of sable antelopes altogether. Like all others of the larger African antelopes, the sable is very tenacious of life, and if not hit in a vital spot will carry off a great deal of lead. It can certainly be killed with any of the modern small-bore cordite rifles, and I have shot several fine bulls myself with a .303 bore rifle and dum-dum bullets; but in countries where one has to hunt on foot, and where the first shot is always the one that counts, I would recommend the use of a somewhat heavier weapon, say a .350 or .375 bore.



Photo by]

[Malby & Son.

RECORD SABLE ANTELOPE.

Length on front curve $62\frac{1}{2}$ inches: Circumference $11\frac{3}{4}$ inches: Tip to tip $24\frac{1}{2}$ inches.

In the possession of Mr A. Boake, "Highstanding," Loughton, Essex.

PLATE XXV.

THE ROAN ANTELOPE

HIPPOTRAGUS EQUINUS

THOUGH the roan antelope is a larger animal than its relative the sable, its horns are considerably shorter, and perhaps because of its shorter mane and the uniform red roan or grey-brown coloration of its body, it is certainly a far less striking animal than the latter. Still, the head of a roan antelope, with the sharply contrasted black-and-white markings of the face, the long, tufted ears and the heavy, well-ringed and often handsomely curved horns, will always cause this species to be much sought after by sportsmen. The range of the roan antelope is very wide, as, south of the Sahara, it is, or was once, found in almost every part of the African continent, except in high mountain ranges and in the great equatorial forests. The species has been divided into various geographical races, which show certain superficial differences of no great importance. Some of the finest horns have been obtained on the White Nile, near Renk, one pair measuring thirty-seven inches over the curve. South of the Zambesi few heads exceeding thirty-four inches have been recorded, and I myself have never seen a pair which measured over thirty-three inches.* Except on the White Nile, perhaps, where they may average more, roan antelope horns measuring more than thirty inches over the curve may be looked upon as good specimens of their kind.

It is quite impossible to lay down any general rules as to the character of the country in which roan antelopes are likely to be met with, as they are equally at home both on the open, treeless downs of some of the higher plateaux of Africa, and in the forested regions at a lower level. In South Africa, however, I never met with them in thick bush, nor in hilly country, and, to the best of my belief, they are entirely absent from the low country along the coast of South-East Africa, between the Pungwe and Zambesi Rivers, although it would seem to be entirely suitable to their requirements.

In the forested parts of what is now Southern Rhodesia, where I first met with roan antelopes some forty years ago, I always found them excessively tame. They would not only allow one to ride up very near them in the first

*In Rowland Ward's *Records of Big Game*, a head obtained in the Tokwi Valley, Southern Rhodesia, by Mr R. C. Camp, is given as heading the list with a measurement of 39½ inches. This is now in the South African Museum.

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instance, but, after having been fired at, would only run a very short distance before halting again. And this they would do several times before finally galloping off. Possibly it was the horse which attracted their attention and aroused their curiosity. On the open downs of Mashonaland I always found roan antelopes very wild and shy, and, except in the case of cows heavy with calf, possessed of great speed and endurance. Though far more widely spread than the sable, I never found roan antelopes so numerous in any part of their range as were the former antelopes in certain favoured districts, nor have I found them congregating in such large herds. They usually live in troops of from five or six to a dozen or fifteen individuals, though I once met with a herd of thirty. More than twenty are, however, seldom seen together—at least, south of the equator—though I have heard that at certain seasons of the year they congregate in larger numbers on the White Nile and the Bahr-el-Zaraf. I have sometimes, though very rarely, seen two full-grown bulls with a herd of roan antelopes. As a general rule, there is certainly only one, and it is perhaps because the master bull of a herd of these animals will tolerate no rival that so many single roan bulls are met with. As with male sable antelopes, a single roan bull soon comes to bay when chased and barked at by dogs, and then fights fiercely, though in my own experience I have never known one of these animals to kill one of my own dogs. They never seemed to me to be so quick with their horns as are sable antelopes, nor can they reach so far with them as the last-named animals are able to do. On the other hand, roan antelopes are more apt to act on the aggressive when brought to bay than any other African antelope. At least, that is my experience; and when wounded and standing snorting defiance, they should not be incautiously approached. When nearly spent, but still striking savagely at the spears which are being thrown at it from all sides, a roan antelope often gives vent to a loud squealing cry quite different to any sound I have ever heard emitted by any other antelope.



Photos by]

ROAN ANTELOPE, Male.

(Hy. Dixon & Son.
ROAN ANTELOPE, Female.

From the High Plateau of Southern Rhodesia.

Shot by Mr F. C. Selous.

PLATE XXVI.

THE GEMSBUCK (*ORYX GAZELLA*) AND ITS CONGENERS

LARGEST and handsomest of the genus of antelopes to which it belongs, the gemsbuck, or South African oryx, is certainly one of the most beautiful of all African animals. In this species, as in all its near allies, both the males and the females carry horns, and there is less disparity in size between the sexes than is the case with any other large antelopes. The old bulls may be of slightly stouter build than the cows, but they stand no higher, and though their horns are thicker, they are also shorter than in the latter. Standing some four feet at the shoulder, the gemsbuck is a very heavily-bodied animal, with somewhat short legs, but nevertheless presents an appearance not only of great strength, but also of perfect symmetry. In general colour these antelopes are of a greyish fawn with a tinge of pink in it. The face is boldly marked with black and white, much after the fashion of the roan and sable antelope, and a black dorsal stripe spreads into a broad patch over the rump. There is also a black stripe running down the centre of the throat to the chest, whilst a broad band of black runs from behind the shoulder to the flank and thigh, separating the white belly from the grey of the body. The tail is long, with a very thick, heavy tassel, which almost sweeps the ground. The horns grow from the top of the head, just above the eyes, in a straight line with the plane of the face, or else have a slight backward curve. They are black in colour, and ringed from the base upwards for about a third of their length. In the females they sometimes approach a length of four feet, but in the males very seldom, if ever, exceed a measurement of three feet six inches. The record pair of gemsbuck horns is forty-seven and a half inches in length. The animal which bore them was killed by a native in the Southern Kalahari, near the native town of Morokwaine. This pair of horns was given to me by a trader, but as it was not the spoil of my own rifle I gave it to a friend, by whom it was brought to England. I have never been in any country where gemsbuck were very plentiful, but altogether I think I must certainly have seen more than two hundred of these animals, and of these I shot the two which seemed to carry the longest horns. These were both females, and in each case their horns measured forty-three and a half inches when they were first killed. Therefore I should say that a measure-

THE GUN AT HOME AND ABROAD

ment of from forty to forty-two inches is a good average length for gems-buck cow horns, and from thirty-eight to forty inches quite good for bull horns. Very large numbers of gemsbucks used to be killed annually by the Bechwana tribes, whose hunting-grounds were in the Kalahari, and all the finest horns they obtained were bought from them on their return to their homes by white traders, by whom they were eventually sold to merchants on the diamond fields. Large numbers of gemsbuck horns used also to be annually brought by sea to Cape Town from Walfisch Bay, and from amongst such stores collectors were now and then able to select exceptionally fine specimens. But the man who only values trophies of his own shooting should think himself very fortunate if he can add to his collection the head of a gemsbuck in which the horns measure forty-four inches in length. Of the first sixteen gemsbuck heads the horn lengths of which are given in the last edition of Rowland Ward's "Records of Big Game," only a small proportion were, to the best of my belief, shot by their owners, all the longest specimens known having been bought originally from native hunters.

The range of the gemsbuck has always been confined to those regions of South-Western Africa in which surface-water becomes non-existent for months at a time every year, and there can be no doubt that these antelopes live and thrive in countries where during long periods they cannot by any possibility drink. In certain parts of the Kalahari they doubtless obtain, like other antelopes living in the same districts, an abundance of watery juice from the wild water-melons which there grow in profusion, and in other districts they dig up certain water-conserving tubers; but gemsbuck are also found in the height of the dry season where neither of these excellent substitutes for water exist, and it has always been a mystery to me how such large animals were able to live and grow fat in an intensely hot, dry climate and in a country where there was no open water, and where at the same time both grass and the leaves of all bushes seemed parched up. Less than a century ago the gemsbuck was a common animal all over the karroos of the Cape Colony, and is said to have been plentiful on the open plains near the present city of Port Elizabeth, within sight of the sea. It is no longer found in any of its old haunts in the central or southern portions of the Cape Colony, but in the north-western districts of that province, in the dry, inhospitable wastes of Bushman Land, immediately to the south of the Orange River, it has always maintained a footing; and, thanks to the protection of the game laws now in force in the Cape Colony, has of

THE GEMSBUCK AND ITS CONGENERS

late years become much more numerous in that district than it used to be when I first visited South Africa, more than forty years ago.

From the Orange River northwards the range of the gemsbuck extends through the Kalahari to the southern portions of the Portuguese province of Angola. North of the Limpopo it was seldom found to the east of a line drawn due south from the junction of the Chobi with the Zambesi; but I have met with a few herds as far eastwards as the Ramokwebani River, in Western Matabeleland.

As I have said before, I have never seen gemsbucks in large herds, but have often found only three or four consorting together, and I have, I think, never met with a troop of more than twenty individuals. As with other antelopes at certain times of year, the bulls leave the cows and live alone. In the gemsbuck cow the skin is uniformly thin all over the body, but in the bull, though it is very thin on the sides and belly, it is enormously thick on the back of the neck and to a lesser extent also over the withers and on the back. I have never used dogs in hunting gemsbucks, but on one occasion whilst trekking through the scrubby bush to the east of the Botletli River, we came suddenly in full view of a gemsbuck bull, to which, as it ran off, two of my dogs gave chase. Hearing them barking a short distance ahead, I jumped off the wagon and ran after them, and found they had brought the long-horned antelope to bay. It just stood threatening them with its horns as they barked at it, but did not charge them. Immediately it saw me it broke bay, and never stopped again, although the dogs pursued it for some distance. It is generally understood that gemsbucks habitually put up a good fight when attacked by lions, and, indeed, quite commonly get the best of these encounters. Now, no doubt, lions are occasionally killed by gemsbucks, as well as by sable and roan antelopes. But I imagine that such accidents are of very infrequent occurrence, as lions very well know the character of the weapons possessed by all the various species of animals on which they prey, and take precautions for their safety when attacking the more dangerous among them. When attacking a gemsbuck a lion would probably always try to seize it by the muzzle with one of its great forepaws, thereby rendering it powerless to use its horns. Accidents, however, sometimes no doubt happen; but lions are, as a rule, very scarce in the desert or semi-desert countries frequented by gemsbucks.

Gemsbucks are usually found in very open country, or amongst a scattered growth of small thorn scrub, but I have known them to pass the heat

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of the day in quite thick forest country. Their black-and-white faces and the flashing of their long black horns in the sun often betray their presence when they are still a long way off; but, on their part they are very keen of sight, as well as of scent, and can only be approached in open country by very careful stalking. Once disturbed, they go further than any other animal I know of before stopping, and although they do not run their very hardest unless pressed, yet they always keep up a great pace, their long bushy black tails almost brushing the ground. As they run, their heads are carried rather low, so that their long thin horns stand up very straight, almost at right angles with the line of their backs.

I have always hunted gemsbucks on horseback, and have had many a long, hard gallop after these beautiful creatures, which have been described by some writers as the fleetest of all South African antelopes. Personally, I consider that for pace and endurance when ridden after hard, gemsbucks are much on a par with sable and roan antelopes—in both cases, of course, leaving out of account cows heavy with calf—but that in these respects they are much inferior to all species of both hartebeests and wildebeests. At any rate, I have fairly ridden down two gemsbucks. The first was a single bull, which I chased and pressed hard for a long distance through bush which was too thick to allow me to dismount and take a running shot. Suddenly he stopped and allowed me to ride close past him, and he did not move again until I pulled up in front of him and killed him with a bullet through the heart. The second gemsbuck which I rode down was a cow—one of a herd of about fifteen—with no bull amongst them. In this herd there was another cow with a most beautiful pair of horns, which I eventually secured; but as this coveted animal always ran in the van of the herd, I could not get a shot at it for a long time, and before I did so one of the other cows suddenly stopped and let me ride close past her. No doubt this cow was in calf, but as she would not have dropped her calf for at least six months, this could not have affected her running powers to any great extent. It must not, however, be imagined that gemsbucks can, as a rule, be easily overtaken on horseback, as on both the occasions I have referred to I was very well mounted, and my horses were not only in very good condition, but trained hard.

I have twice met with gemsbucks in company with Burchell's zebras, and when disturbed, both species ran off together, the latter closely following the former in such a way that it was only possible to get a shot at any of the gemsbucks after first galloping past the zebras. This I was

THE GEMSBUCK AND ITS CONGENERS

able to accomplish on both occasions as I was riding very fast horses. Owing to the uninviting character of the parched and waterless wastes in which the gemsbuck lives and thrives, and their unsuitability for settlement by either Europeans or natives, this beautiful species of antelope is, I think, likely to survive for a long time to come in South-West Africa, even without any special protection.

The nearest congeners of the gemsbuck are the two species of oryx inhabiting the more arid regions of North-East Africa. Of these the *oryx beisa* is very similar in appearance to the gemsbuck, though it is a good deal smaller, and lacks the black markings over the rump and on the lower part of the thighs which distinguish that species. The horns, too, of the beisa are a good deal shorter on the average than in the gemsbuck, and usually grow almost parallel to one another from base to point. The ears, also, in the beisa oryx are narrower than in the true gemsbuck. The second East African species of oryx is the *oryx callotis*, which is an animal of about the same size as the beisa, but of a much redder coloration, and in which the ears are long and tufted as in the roan antelope. The range of the beisa oryx extends from the neighbourhood of Suakim on the Red Sea, through Somaliland and Abyssinia, as far as the Tana River, in British East Africa, and it is also plentiful to the east of Lake Rudolph and along the northern Guaso Nyiro River as far south as the Laikipia plateau. South of the Tana River the range of the beisa does not extend, its place being taken by the fringe-eared oryx, which ranges southwards into German East Africa.

In both *oryx beisa* and *oryx callotis* the horns are, on the average, very inferior to those of the South African gemsbuck, being not only much shorter, but almost always lacking the spread which is usual in the latter. In both the East African species of oryx, however, the horns of the bulls attain to as great a length as in the cows. The longest horn measurement for an *oryx beisa* given in the last edition of Rowland Ward's "Records of Big Game" is thirty-nine inches. The animal which bore these horns was a female, but the measurements of two pairs of bull horns are given as thirty-eight inches. The longest recorded pair of horns of *oryx callotis*—that of a bull—is given as thirty-three and a half inches, the next longest being that of a cow, which is thirty-three and a quarter inches in length. In addition to the two perfectly distinct forms of oryx which are found in East Africa, a third sub-species or local race, which appears to be intermediate between the two, inhabits a portion of the Laikipia plateau to the

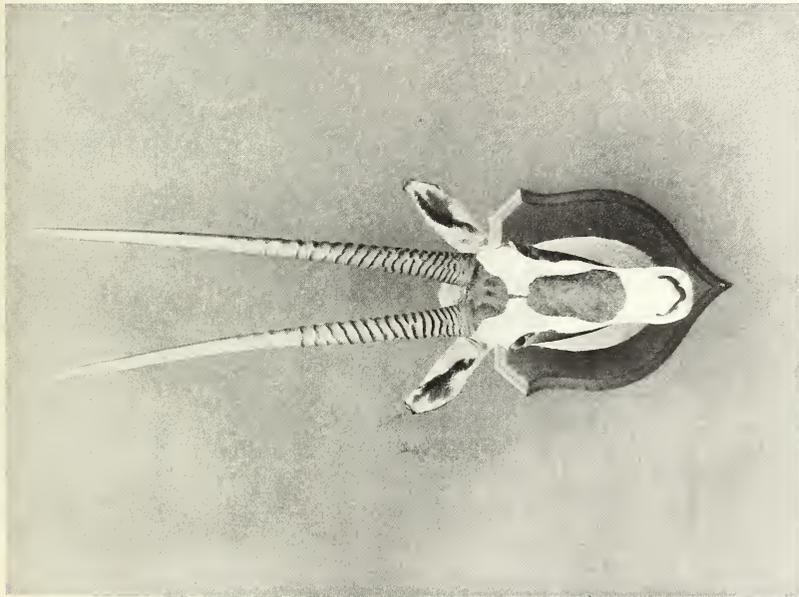
THE GUN AT HOME AND ABROAD

south-west of Mount Kenia. This sub-species or local race has been named by the American zoologist, Hollister, *Oryx beisa annectens*, to signify its intermediate character between the two well-defined species *Oryx beisa* and *Oryx callotis*.

When travelling in East Africa in 1910 I had the opportunity of examining four animals of this local race, which a friend and I shot on the Sungari-rongai River, and in their face-markings, except that the dark patch beneath the horns was joined by a narrow band of the same colour to the dark patch on the nose, as in *Oryx beisa*, they agreed exactly with the description given of *Oryx callotis* by Messrs Sclater and Thomas in their book on the African antelopes. In all cases, too, their horns were shorter than is usually the case with *Oryx beisa*, and in this respect they again more nearly resembled *Oryx callotis*. Their ears were neither so long nor so fully tufted as in the latter species, but in one specimen, a cow, the tufts were quite well developed. In general colour they were not so red as in the typical *Oryx callotis*, though in this respect they varied, as in the female aforementioned, in which the ears were well tufted; the ground colour of the face was of a pinky fawn.

Curiously enough, this intermediate race of East African oryx is separated from the nearest point of the range of the fringe-eared species by some hundreds of miles of country in which there are no oryx at all of any kind; whilst northwards from the Sungari-rongai River to the west of Mount Kenia, where I obtained my specimens of *O. b. annectens*, oryx are met with continuously all along the Guaso Narok, and the Guaso Nyiro Rivers to the Lorian swamp, and from thence without a break in their range to Lake Rudolph, Abyssinia and Somaliland. In these latter countries there is only one species of oryx, and that is the true *beisa*, and it would certainly seem as if at some not very distant time a certain number of fringe-eared oryx must have wandered northwards beyond their usual habitat until they reached the most southerly country ranged over by *oryx beisa*, on the confines of which the two species have interbred. It would be amongst the most southerly herds that one would expect to find the strongest evidence of an admixture of *oryx callotis* blood, and this, I think, is, in fact, the case. Certainly, on the Lower Guaso Nyiro River, near the Lorian swamp, the average horn length is much greater than amongst the oryx on the Laikipia plateau, and all the oryx we shot there in 1912 appeared to be true *oryx beisa*.

In habits the various species of oryx found in East Africa appear to be



ORYX BEISA, from Abyssinia.

Length on front curve $36\frac{3}{4}$ inches: Circumference $7\frac{1}{2}$ inches: Tip to tip $12\frac{1}{4}$ inches.
Shot by Mr. A. E. Butter.

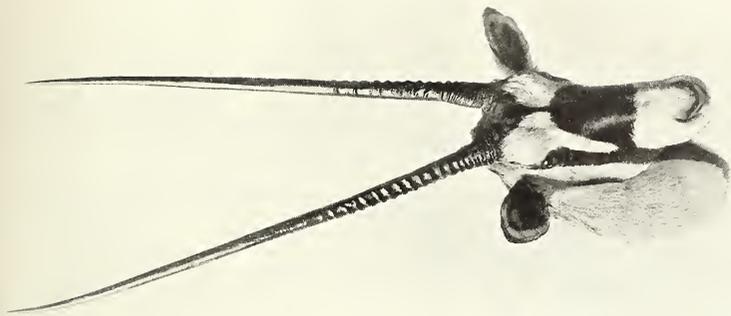


Photo by]

GEMSBUCK, from Makarikari Saltpan,
Bechuanaland Protectorate,
Shot by Mr. F. C. Selous.

PLATE XXVII.

THE GEMSBUCK AND ITS CONGENERS

very similar to the gemsbuck of South-West Africa. Those found on the Laikipia plateau are met with on open grass downs, or amongst a scattered growth of thorn bushes. But in the neighbourhood of the Voi River, where I hunted for *oryx callotis* in 1903, the greater part of the country was covered with stunted forest, for the most part free from any undergrowth, and intersected by numerous open glades. I one day met in that district with a single bull oryx in company with a herd of Coke's hartebeests. As a rule, all species of oryx are difficult to approach, as they are very keen-sighted. When wounded, they should not be incautiously approached, as they are apt to charge with great courage and determination. As a rule, the two species of East African oryx live in small herds, but both sometimes congregate together in very considerable numbers. In some parts of their range they are said to be entirely independent of water, but along the Northern Guaso Nyiro, where the climate is very hot, it appeared to me that the oryx were in the habit of drinking in the river. The flesh of all species of oryx is most excellent. When in high condition, they all develop a large lump of fat which adheres to the skin in the middle of the throat.

There remains to be mentioned one more member of the oryx family, namely, the white oryx (*Oryx leucoryx*) of the North African deserts. This beautiful animal, though much inferior in size to the gemsbuck, yet almost rivals that species in the length of its horns, which have been known to measure forty-four and a half inches.* The white oryx differs markedly from all other members of the genus to which it belongs, in that its horns are bent backwards in a very graceful curve instead of being perfectly straight or nearly so. Living as it has done for countless centuries in the full blaze of the sun on arid, treeless plains, this species has become bleached, the general colour of the body being nearly white and the markings on the face and legs, which in other members of the oryx family are black, having faded to a pale brown. The colour of the neck, however, is reddish brown. Altogether, it would seem probable that more than one species of oryx had already been evolved from a common ancestor in pleistocene times, and that whilst the gemsbuck, the beisa and the fringed-eared oryx are descended from straight-horned ancestors which entered Africa from Asia, and spread southwards to the east of the Nile, the ancestors of the white oryx—which is entirely confined to the deserts to the west

*The longest measurement in Rowland Ward's *Records of Big Game* is that of a head from Kordofan, which reaches 45 inches.

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of that river—crossed directly into Africa from Southern Europe. The Arabian oryx, though it has become small in size and white in body colour, because of the scarcity of food, and the intense heat of the shadeless deserts in which it lives, has straight horns, and still retains the black face markings of its nearest allies, which are found in Africa to the east of the Nile.

The white oryx seems to be found throughout the desert regions which extend from Northern Nigeria to Dongola and Kordofan, and sometimes approaches the Nile. In spite of the scantiness of the vegetation in the arid regions it inhabits, and the intense heat of the sun, it appears to be quite independent of water; but at certain times of year it is said to feed on wild melons, which seem to be very similar to those which grow in parts of the Kalahari in South-Western Africa, and which contain so much juice that lions and other carnivorous animals are able to live and hunt without access to water, wherever they grow.

In habits the white oryx appears to be very similar to its congeners, the beisa and the gemsbuck, living in small herds either in the open desert or amongst the scattered thorn scrub which grows in the valleys intersecting those arid regions, which were perhaps once watercourses. Like all its congeners, it is said to be very keen-sighted and difficult to approach.

THE ADDAX

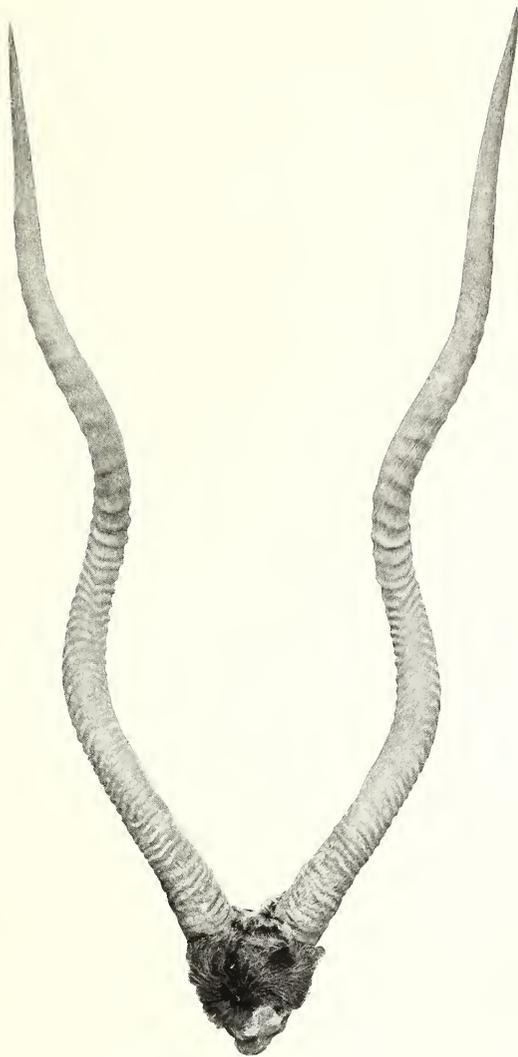
ADDAX NASOMACULATUS

ALTHOUGH this fine antelope is the only representative of its genus, it shows close affinities in some respects to the various members of the oryx family, and also resembles the sable and roan antelopes by the presence of large white tufts beneath the eyes. But its long, spirally twisted and closely ringed horns, and the broad rounded hoofs, which remind one irresistibly of those of the caribou or reindeer, differentiate it from all its nearest allies. The broad, shallow hoofs of the addax are admirably fitted to enable it to move over the sand dunes amongst which it lives, without fatigue, just as the hoofs of the caribou enable that animal to walk across wet bogs and regions covered with soft snow without sinking too deeply. In the winter the general body colour of the addax is brownish grey, the hindquarters, tail and hind legs being white. The head and neck remain the same colour throughout the year, but in summer the hair on the upper part of the body between the neck and the hindquarters takes on a darker reddish-brown hue. The forehead, both in the males and the females, is covered with a mass of coarse black hair, resembling the growth of hair on the forehead of an eland bull. Below this dark hair on the forehead of the addax are the white eye tufts. Both sexes carry horns in this species, as is the case with its nearest allies, the various members of the oryx family, and also with the sable and roan antelope.

In the male addax the horns are beautifully twisted as in the greater koodoo, and sometimes develop a third turn, whilst in the female they are much slenderer and much less spirally twisted. The longest specimen recorded in the last edition of Rowland Ward's "Records of Big Game" has a length of thirty-nine and five-sixteenths inches over the curve and thirty-four and a half inches in a straight line. Not very much is yet known regarding the life history of the addax, but it is known to exist in Senegambia, to the north of the Senegal River, as well as in the more southerly districts of Morocco, Algeria, Tunis and Tripoli, and it is certainly fairly plentiful in the interior of the Dongola province. Its stronghold appears to be in the great region of sand dunes which stretches for hundreds of miles across the central portions of the great deserts of Northern Africa to the

THE GUN AT HOME AND ABROAD

west of the Nile. Where rain falls on these thirsty wastes a scanty vegetation at once appears, on which the addax feeds, and thus these antelopes are accustomed to follow the rains and are forced to wander over vast areas of country in search of food. In any given year they may be numerous in a certain district after a good rainfall, and entirely absent from the same area during a succession of dry years. They are said to live in small herds or families, and are much persecuted by Arab hunters, who, indeed, have of late years greatly reduced their range; but as they are independent of water, like the white oryx and the desert gazelles, they will probably survive for a long time to come in the more inaccessible portions of the vast wastes where they still exist.



RECORD ADDAX.

Length on front curve $39\frac{5}{8}$ inches: Straight line $34\frac{1}{2}$ inches: Circumference $5\frac{7}{8}$ inches:
Tip to tip $18\frac{3}{4}$ inches.

In the collection of Sir Edmund G. Loder, Bt.

PLATE XXVIII.

THE ELANDS

POINTED-EARED RACES:

TAUROTRAGUS ORYX TYPICUS

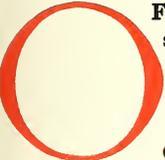
TAUROTRAGUS ORYX LIVINGSTONEI

TAUROTRAGUS ORYX PATTERSONIANUS

ROUND-EARED RACES:

TAUROTRAGUS DERBIANUS

TAUROTRAGUS DERBIANUS GIGAS



F all the antelopes found in the world to-day, the various species or races of elands inhabiting one part or another of the great African continent are in point of size by far the finest.

Mr (afterwards Sir John) Barrow has stated that in the Cape Colony in the year 1797 an eland bull was killed which stood six feet six inches at the shoulder; whilst Captain (afterwards Sir Cornwallis) Harris speaks of the full-grown males of this species, which he met with some forty years later in the countries further north, as "about six feet six or eight inches high at the shoulder and upwards of twelve in extreme length." Whether these measurements were made by eye or with a tape-measure, and, in the latter case, whether they were taken between two uprights in a straight line or over the curve of the body, no man now knoweth, but to-day there are no elands in Africa which attain to anything like a height of six feet six inches at the shoulder.

The only measurements which I have seen recorded of the so-called giant eland of the Sudan is that taken by Captain R. J. Collins of an adult bull shot by himself near Wau, in the Bahr-el-Ghazal province. This magnificent animal stood five feet eight inches in height just behind the centre of the shoulder, and measured nine feet in length from nose to base of tail. The girth of the neck and body behind the shoulder is also given.

These measurements are, however, commonly exceeded by old bulls of the race of elands still found in South Africa, though, according to my own experience, to no very considerable extent.

In the early eighties of the last century I shot and very carefully took the standing heights with a tape-measure (between uprights placed at the top of the shoulder and the heel of the forefoot) of some very fine old eland

THE GUN AT HOME AND ABROAD

bulls in the country now known as Southern Rhodesia. Thus fairly measured, only one of these animals would have stood five feet ten inches at the shoulder when alive. Several others stood five feet nine inches. These fine animals were all of immense bulk, however, and the girth of their necks and bodies behind the shoulder commonly exceeded the same measurements given of the giant eland shot in the Sudan by Captain R. J. Collins. Early in 1903 I met with large numbers of elands near the Voi River, in British East Africa, and the big bulls struck me as being somewhat less bulky than the animals I had been accustomed to see to the south of the Zambesi. But at that time elands were on the protected list of East African game, and I was not able to shoot and examine one of them. In 1910, however, I carefully measured three full-grown eland bulls shot on the Gwas N'gishu plateau, in British East Africa, and made the height of all three as near as possible five feet five inches at the shoulder; and though these animals were in good condition, they were far less bulky and would certainly have weighed much less than an average eland bull of South Africa.

But although there would appear to be some doubt as to the justice of the title of "giant" which has been given to the Derbian eland, this species, owing to the great size of its horns, its large rounded ears and the rich coloration of its head and neck, is certainly by far the handsomest member of the genus to which it belongs.

The range of this magnificent antelope extends from Senegambia to the neighbourhood of Lado on the Nile. To the east of that river it is unknown, its place being taken by elands similar in appearance to, if not identical with, those found in East Africa.

The Derbian eland frequents forested country, which during the dry season becomes very parched and arid, and I was told by the natives of the Bahr-el-Ghazal that it only drank water at infrequent intervals. My experience was that although the animals I hunted there wandered through more or less open forest during the night, they passed the day in thick leafy bush, where it was impossible to obtain a clear view of all of them at one time. Under such conditions, it must always depend a good deal on luck whether one gets the chance of a shot at a big bull. The large rounded ears of the Derbian eland, in shape like those of the koodoo or bushbuck, seem to show that it has always been a true forest species. It browses habitually on the leaves of trees and bushes, and when following the tracks of a herd of these animals one day I noticed five different kinds of trees on

DERBIAN ELAND

PLATE XXIX.



HARRY DIXON

THE ELANDS

the leaves of which they had been feeding. They also grazed to a certain extent, and picked up the ripe fruits which had dropped from the "Lulu" trees. In order to get at the leaves of certain trees, this species of eland will break off quite large branches as thick as a man's wrist. This they probably do by getting a branch between their horns and then wrenching it off by a turn of the head. Possibly it is to this habit, continued for a very long period of time, that the great development of the horns in the Derbian eland is due.

In both the Senegambian and Sudan races into which this species has been divided, though the differences between the two seem to be very slight, the horns of the males attain to a length of over forty inches. They usually have a wider spread, and near the base are more sharply twisted, especially so in the females, than is the case with any of the races of the narrow-eared elands. Contrary to the general belief, the horns of the giant eland are not more massive than those of the elands found both in Southern and Northern Rhodesia, as will at once be realized by a comparison of the measurements given in the latest edition of Rowland Ward's "Records of Big Game" of the finest known horns of all species of elands. The length and spread of the horns in the Derbian eland is, however, never approached by the finest examples of any other species of the genus.

Between the great-horned, round-eared elands of North-West Africa and the smaller-horned, narrow-eared elands whose range extends or did once extend from the Cape to the great equatorial forests on the west and as far north as the Tana River on the east, as well as throughout Central Africa east of the Nile, there is no connecting link. In the neighbourhood of Gondokoro and Mongalla the two species come very near together, narrow-eared elands sometimes visiting the eastern bank of the Nile in that district, whilst Derbian elands must sometimes come very close to them on the western bank of the river in the northern part of the Lado Enclave. But the two species never meet, though only separated to-day by the thin line of the impassable Nile, just as they have been for thousands of years in the past.

From the sportsman's point of view all the local races into which the narrow-eared elands have been divided may be ignored, for as far as their general habits and appearance are concerned, they may be looked upon as belonging to one and the same species, and I shall therefore speak of them collectively as common elands.

The common eland is an inhabitant both of open grass plains and bush

THE GUN AT HOME AND ABROAD

or forest covered regions. Not only in different sections of its range, but in one limited area of country, the same elands will be found frequenting entirely different kinds of ground according to the time of year. For instance, in Southern Rhodesia—I am speaking of the country as I knew it many years ago—elande were never found from January to June on the open grassy downs near the watershed. At that time of year, they frequented the thickly forested and often very broken hilly country to the north, east and south of the high open plateau. After the rainy season, which usually ended in April, the natives annually set fire to the grass on the open downs, as soon as it was dry enough to burn, in order to find the holes of a kind of large field mouse, to the flesh of which they were very partial. This burning of the grass usually commenced some time in June, and was soon followed by the appearance of elands in small herds, all moving out of the forest country on to the open grass land.

I imagine that long experience had taught the elands in this part of the country to connect the smell of the smoke of grass fires with young green grass, which in parts of Southern Rhodesia commences to sprout as soon as the long dry grass is burnt off. As the dry season advanced more and more elands came up on to the plateau and gradually collected into large herds of from sixty to over a hundred individuals, which kept together until the rainy season, which usually set in about November, was well advanced. About the new year, however, they once more left the open country, and, breaking up again into small herds, spent the rest of the rainy season and the early part of the following dry season in the forested or broken hilly country to the north and east of the high open downs. In the northern part of the Bechuanaland Protectorate, too, although there the whole country, with but few exceptions, is covered with forest and bush, elands were accustomed to collect at certain times of year in large herds, and move into districts in which at other seasons they were either scarce or altogether absent. The largest herd of elands I ever saw was in the forest country to the south of the Mababi plain. How many there were I cannot pretend to say with any exactitude, but certainly there were quite two hundred and very possibly three hundred elands together in this great herd. Behind the dense phalanx of females and young males came twelve huge old bulls, every one of which showed the great black tuft of hair on the forehead, and the immense development of the neck, which are never seen except in really old bull elands. Later on in the season, no doubt, this great herd would have broken up into many small troops, and the old bulls



Photo by]

[Hy. Dixon & Son.

ELAND (MALE), from Southern Rhodesia.

Shot by Mr F. C. Selous.

PLATE XXX.

THE ELANDS

would have wandered off by themselves or two, three or four together, until the time again came round for them to seek the cows. Elands are, as a rule, shy and difficult to approach on foot, as they are very keen-sighted, but, of course, the modern long-range rifles render all wild animals living in fairly open country an easy prey to any sportsman who is a fairly good shot.

If hunted on horseback, elands are the easiest of all African game to kill in open country, as, in the case of old bulls, they soon tire if chased at full speed, and can then very often be driven right up to camp before being shot. When pursued, elands, like most other animals, usually run up wind, and although it is very seldom that they can be made to turn right round and run in exactly the opposite direction, they can be made to swerve several points to one side or the other of the course they first start on. If an attempt be made, by riding in front of it, to make a tired eland turn right round, it will sometimes charge. In doing this it brings its forehead almost to the ground, so that its nose is between its forelegs and its horns stand out straight in front of it. It can, of course, see nothing with its head in such a position, but it has marked its adversary well, and, coming on with a rush, strikes upwards where it thinks he ought to be. It is always very easy to avoid these wild charges by just spurring one's horse to one side, and I have never known an eland to come round after the object of its attack. They just bring their heads up again at the end of their short rush, and then go trotting on; for they never charge, I think, even in this half-hearted way, until after they have broken from their gallop and are much exhausted. I have only known of one horse having been killed by an eland, and that was an exceptionally good shooting-pony which I myself sold to Lo Bengula, the last great chief of the Matabele Zulus. It was ridden by one of his own men, whom he had taught to ride, and was gored to death by an eland bull, which had been too closely approached after having been galloped to a standstill. I once nearly had a very good horse of my own gored by an eland cow which I was trying to turn from its course and drive to my waggon. I had chased it till it had broken from its gallop to a trot, and I was riding close alongside of it to make it turn the way I wanted it to go. Several times it had turned towards me, and then, dashing past just behind my horse, resumed its own course, and I then had to gallop round it and force it to turn again. Suddenly, and with extraordinary quickness, it lowered its head and came for the horse. I only just avoided it, and, looking over my shoulder, I saw one of its long,

THE GUN AT HOME AND ABROAD

straight horns come up through my horse's tail. Still, even a rat will turn when cornered, and elands are really about the most inoffensive of all wild animals. Although it is so very easy to gallop down elands in open country, it must not be thought that these animals cannot run. For a mile they can gallop at a very great pace, and individual cows will keep up this speed for a much longer distance. When excessively fat, of course, elands soon tire, but, speaking generally, they run much better when in good condition than when they have become thin towards the end of the dry season. In bush or fairly thick forest, or broken hilly country, it will take a very good horse to keep near an eland, and to gallop down one of these animals under such conditions is no easy task. Although such large animals elands have always seemed to me to be less tenacious of life than all other African antelopes. At any rate, any of the modern small-bore rifles are quite powerful enough to be confidently used in their pursuit.

BONGO

PLATE XXXI.

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and expansion. From a small collection of colonies on the eastern coast, it grew into a vast nation that stretched across the continent. The early years were marked by struggle and conflict, as the colonies fought for their independence from British rule. The American Revolution was a turning point in the nation's history, leading to the birth of a new republic. The years following the revolution were a time of rapid growth and development. The United States expanded its territory westward, and its economy flourished. The nation's population grew, and its influence on the world increased. The American dream of a better life for all became a reality for many. The United States emerged as a major power in the world, and its values and ideals were spread across the globe. The history of the United States is a testament to the power of the human spirit and the pursuit of a better future.

1776



W. Caldwell
1913

THE BONGO

BOÖCERCUS EURYCEROS

BONGO is the name given by a tribe of West African natives (the Fantis) to an antelope whose habitat was until quite recently supposed to be entirely confined to the forest regions of equatorial West Africa, extending from the Gaboon to Liberia.

After the opening up of British East Africa, however, the skulls and horns of what was evidently the same or a very nearly allied species of forest antelope were from time to time seen by travellers and hunters in the encampments of the Wandorobo, and we now know that this Eastern race of the Bongo (*B. euryceros isaaci*) is an inhabitant of all the great forest tracts on the highlands of that part of Africa. Living as it does in the densest parts of the forest, and never coming out into open ground, the bongo has only been seen alive by very few European sportsmen; but it seems to be fairly numerous in the high forests between Nairobi and Lake Naivasha, on the Aberdare range, on the Mau plateau, in all the forests which surround the Gwas N'gishu plateau, as well as on the slopes of Mount Kenia and Mount Elgon.

The bongo is a large, heavily built antelope, standing about four feet at the shoulder. In both sexes the colour of the body is a rich dark chestnut-red, banded on either side with from ten to fourteen pure white stripes. The ears are large and round, as in all forest antelopes, and both sexes carry horns. These approximate in shape somewhat to those of the inyala, but are very much more massive.

The bongo shows certain affinities to the eland, especially to the Derbian eland. Indeed, an American naturalist has affirmed that there is less difference between the skull of the East African bongo and that of the Derbian eland than there is between the skull of the latter animal and that of the common eland. The tail, too, is long and tufted, just as it is in all the species of elands, and, as is the case with those antelopes, both the male and the female bongo carry horns.

Living as they do in dense forests, bongo antelopes are mainly browsers, but they are also said to be very fond of the pith of certain rotten trees, whilst Captain C. H. Stigand, one of the few Europeans who has actually shot one of these animals, says that the old males will sometimes uproot

THE GUN AT HOME AND ABROAD

saplings by digging and levering up the roots with their massive horns. This they do, he says, in order to get at the leaves and bark.

Although, as with all other antelopes, old male bongos often live by themselves, at any rate, at certain times of the year, there can be no doubt that these animals live in herds, which, however, probably seldom number more than eight or ten individuals.

To successfully hunt the bongo, great patience and perseverance are required, and the only men I know of—although there may be some few others of whom I have not heard—who have tracked and shot one of these animals without the help of dogs are Captain Stigand, Mr Kermit Roosevelt, Mr Kincaid Smith and the late Mr George Gray. Describing his son's successful hunt after bongo in "African Game Trails," Mr Theodore Roosevelt says: "They (Mr Kermit Roosevelt and Mr Barclay Cole) took eight porters and went into the forest accompanied by four 'Ndorobo. They marched straight up to the bamboo and yellow-wood forest near the top of the Mau escarpment. They spent five days hunting. The procedure was simply to find the trail of a herd, to follow it through the tangled woods as rapidly and noiselessly as possible until it was overtaken, and then to try to get a shot at the first patch of reddish hide of which they got a glimpse—for they never saw more than such a patch, and then only for a moment. The first day Kermit, firing at such a patch, knocked over the animal, but it rose, and the tracks were so confused that even the keen eyes of the wild men could not pick out the right one. Next day they again got into a herd; this time Kermit was the first to see the game, all that was visible being a patch of reddish [hide] the size of a man's two hands, with a white stripe across it. Firing, he killed the animal, but it proved to be only half grown. Even the 'Ndorobo now thought it useless to follow the herd; but Kermit took one of them and started in pursuit. After a couple of hours' trailing, the herd was again overtaken, and again Kermit got a glimpse of the animals. He hit two, and, selecting the trail with most blood, they followed it for three or four miles, until Kermit overtook and finished off the wounded bongo, a fine cow."

The first complete specimens of the East African race of the bongo ever brought to Europe were obtained by Mr Frederick Isaac during the time that he was District Commissioner at Ravine Station, and this new species or geographical race was named by Mr Oldfield Thomas after its discoverer (*Boöcercus euryceros isaaci*). In January, 1903, I visited Mr Isaac at Ravine Station, and, standing outside his house, which was situated



Photo by] [Hy. Dixon & Son,
GREATER KOODOO, from Maeloutsie River,
Bechuanaland Protectorate.
Shot by Mr F. C. Selous.

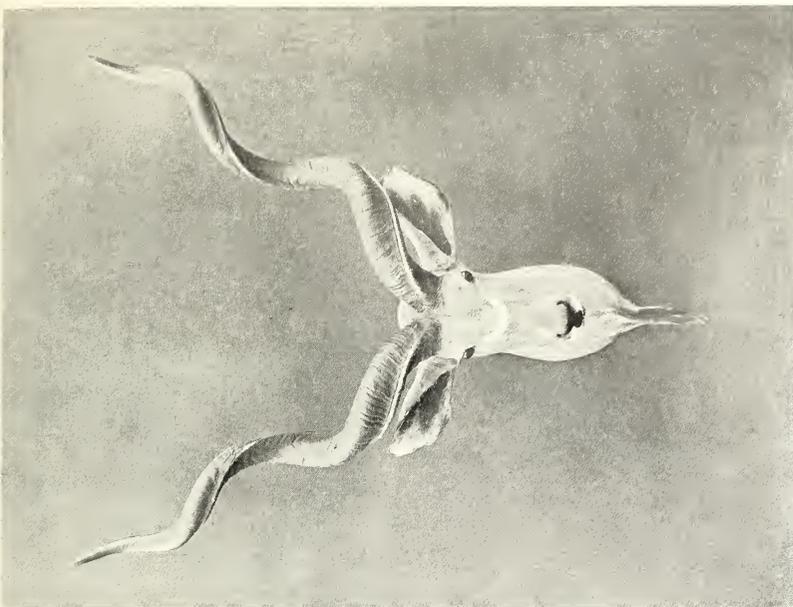


Photo by] [Lafayette,
GREATER KOODOO, from Lake Rudolf.
Length on outside curve 53 inches: Circumference $11\frac{3}{4}$ inches: Tip to tip $47\frac{3}{4}$ inches.
Shot by Mr A. E. Butter.

THE BONGO

on the top of a hill, he pointed out to me, approximately, the spot in the forest below where the first specimen he obtained, which was an adult female, had been killed some eighteen months previously by the Wandorobo. He had offered these savages a large reward if they would kill a bongo near his station and bring him to it at once, in order that he might skin it properly himself. This first specimen obtained by Mr Isaac was brought to bay in very thick bush by native dogs, and killed with a poisoned arrow. Subsequently, Mr Isaac told me, he went out himself with the Wandorobo, and added a very good dog of his own to their pack. Three more bongo antelopes were killed—the big male now shown in the Mammal Gallery of the Natural History Museum, and two females. These were all shot by Mr Isaac himself after they had been brought to bay by the dogs. When pursued by dogs, Mr Isaac told me, the bongo will rather creep through dense patches of bush than attempt to jump over them. But these animals always make for the thickest cover, and in the case of the old male Mr Isaac told me that when the dogs got up to it it had forced itself into such a tangle of dense jungle that it could not possibly get any further, and he only succeeded in getting near enough to shoot it by crawling a long way on his stomach under the bush.

THE GREATER KOODOO

STREPSICEROS CAPENSIS

WHETHER or not the koodoo ought to be considered as the handsomest of all African antelopes is a question of individual judgment, but there can be no dispute as to the magnificent appearance of a fine male of this species if seen under favourable conditions.

Once one of the commonest of all the larger African antelopes, no animal, with the exception of the buffalo, suffered more than did the koodoo from the terrible visitation of rinderpest which swept through Africa between the years 1886 and 1897. From the mountains of Abyssinia to the Eastern Province of the Cape Colony the koodoo was once found wherever the conditions were suitable to its existence; whilst in Western Africa, south of the great equatorial forests, its range extended southwards to the Orange River. Immediately after the rinderpest had swept through Africa it was found that koodoos had either absolutely disappeared from many parts of their former range, or that they had so diminished in numbers that their speedy extermination seemed only too likely. This, however, I am happy to say, appears to be by no means the case. I am informed that in South Africa koodoos are now once again becoming fairly numerous in many of their old haunts. In the Cape Colony, in the Zwart Ruggens district, where they have for a long time past been carefully protected, they are said to be now very numerous; whilst in the game reserves of the Eastern Transvaal and Zululand, as well as throughout Southern Rhodesia and many districts of Nyassaland and Northern Rhodesia, they are also said to be now rapidly increasing in numbers. In the whole of British East Africa, however, koodoos are, I believe, now only found in the neighbourhood of Lakes Baringo and Hannington, except near the German border to the south of Mombasa. Further north, on the Blue Nile and its tributaries, as well as amongst the mountain ranges of Abyssinia and certain districts of Somaliland, these splendid antelopes are still fairly numerous.

Previous to my visit to the Sudan in 1911, I had always imagined that north of the Equator the koodoo was nowhere found to the west of the Nile, but there can be no doubt that this antelope is an inhabitant of certain hilly regions in Kordofan.

GREATER KOODOO

PLATE XXXIII.

THE CHINESE ECONOMY

RECENT DEVELOPMENTS

W

hile the Chinese economy has shown a steady upward trend in the past few years, it has also faced a number of challenges. The most significant of these is the impact of the global financial crisis, which has led to a sharp decline in exports and a slowdown in growth. However, the Chinese government has implemented a series of measures to stimulate the economy and has managed to maintain a relatively high level of growth.

The Chinese government has implemented a series of measures to stimulate the economy and has managed to maintain a relatively high level of growth. These measures include increasing government spending, cutting taxes, and providing financial support to businesses. The government has also implemented a series of reforms to improve the efficiency of the economy and to attract foreign investment.

The Chinese government has also implemented a series of reforms to improve the efficiency of the economy and to attract foreign investment. These reforms include improving the legal system, strengthening intellectual property protection, and improving the quality of infrastructure. The government has also implemented a series of measures to improve the quality of education and healthcare.

The Chinese government has also implemented a series of measures to improve the quality of education and healthcare. These measures include increasing government spending on education and healthcare, and implementing reforms to improve the quality of education and healthcare. The government has also implemented a series of measures to improve the quality of the environment.

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Waldwell 1913

GREATER KOODOO

As is very generally known, the female koodoo is hornless, but the male develops very large horns which grow in a spiral twist. The longest pair of koodoo horns I ever heard of came from the Kafue River, in North-West Rhodesia. They measured four feet two inches in a straight line from point to base, and also had a wonderful spread, but not much twist. There is also at least one other pair in existence which measures four feet from tip to base in a straight line. The longest authentic measurement over the curve in koodoo horns is, I believe, sixty-four inches. The most beautiful heads are, in my opinion, those in which a good length is combined with a graceful curve and a fair spread.

In South Africa koodoos are never found in open grass plains, but always in forest or bush country, often amongst rugged stony hills, but quite commonly, too, on level ground. Although they feed greedily on young green grass, and will venture into very open ground sometimes in search of it, koodoos are, I think, rather browsing than grazing animals, eating the leaves and young shoots of many shrubs and bushes. They are, too, very fond of the fruits of various trees, which they pick up after they have fallen to the ground. There is some conflict of opinion as to whether the koodoo can be fairly classed amongst those species of antelopes which are undoubtedly able to go for long periods without drinking. That they can live in the Kalahari for months together in places where surface-water is non-existent there can be no doubt; but in such localities they are said to live on a kind of wild melon which grows in great profusion in certain districts of that waterless region, and which is full of juice; and since cattle and horses, and even human beings, can live quite well on these wild melons without actually drinking water, such wild animals as appear to be entirely dependent on them during the dry time of year cannot fairly be classed with true desert antelopes, which latter are able to live in countries where not only is there no water, but where also there do not appear to be any melons or other water-conserving plants. In my own experience I have never met with koodoos at any great distance from water. In the dry season I have always found them near the rivers in which there was permanent water; but in the rainy season, when every pool and hollow in the ground held water, they would wander far out into otherwise desert tracts, always returning to the rivers as the outside waters gradually dried up.

As is the case with many other antelopes, koodoos are seldom met with in anything but very small herds during the rainy season, but during the dry months they are more gregarious. They never collect together, however,

THE GUN AT HOME AND ABROAD

in very large numbers, and I have seldom seen herds of these animals containing more than twenty individuals, and never, I think, more than thirty. The old bulls are usually found alone, though towards the end of the dry season, in districts where these animals were plentiful, three, four or five old males were often met with consorting together. On one occasion, on the banks of the River Chobi, in 1874, I saw eight magnificent koodoo bulls together. Little or no hunting had then been done in that part of the country, and these splendid animals had come down to drink in the river in the middle of the day. I was on the river in a native canoe, and as the wind was off the land they allowed me to paddle close past them as they stood in full view beneath the shade of some tall acacia trees. In the year 1880 I came across a herd of about thirty koodoos near Hartley Hills, in Southern Rhodesia. Amongst them were two very fine old bulls, and several younger males, the rest being females.

If koodoos are much disturbed, they become very shy and wary, and will then seldom show themselves by daylight outside thick cover, and in such surroundings they must be hunted on foot, and their tracks followed with the utmost caution. On the other hand, where they have not been much disturbed, koodoos will often be found in districts where there is no thick bush at all, but only tracts of forest free of undergrowth and intersected by frequent open glades. In such ground these animals can be hunted on horseback. The cows are very light and agile, and run at such a pace when pressed that I have never been able to gallop past one. But the old bulls run heavily, and have not much pace. I have galloped up to and shot a good many of these grand animals in different parts of Southern Rhodesia. They, in common with elands, were very fond of raiding the native cornfields at night in that territory. These fields were always surrounded by a fence in which openings were left at intervals, and in each of these openings a deep but carefully covered pitfall was placed. I suppose that sometimes unwary animals were caught in these pitfalls, but such an event never came within my own experience. Both the koodoos and elands seemed to know all about the hidden dangers of these open places, and, in their night raids on the cornfields, always jumped the fences in between them. It is often dangerous to hunt on horseback in the vicinity of native villages or cornfields on account of pitfalls, and one day, when galloping hard close behind the finest of four koodoo bulls in the neighbourhood of Lomagundi's kraals, I rode right into one. My horse struck the other end with his chest and broke his back, and I went on with the saddle over his head.



RECORD GREATER KOODOO.

Base to tip 48½ inches: tip to tip 49 inches.

Shot by Mr Sidney Osborn, 1890.

PLATE XXXIV.

THE LESSER KOODOO

STREPSICEROS IMBERBIS

ALTHOUGH lacking the majestic presence of its greater relative, the lesser koodoo is nevertheless one of the most graceful and beautiful of all African antelopes. The general colour in this species is a rich dark grey, banded with thirteen or fourteen very plainly defined white stripes on either side of the body. This antelope entirely lacks the long fringe of hair which hangs from throat to chest in the greater koodoo, but, on the other hand, shows two white bands across the throat which are lacking in the latter species. The horns in the male of the lesser koodoo are beautifully twisted in a close spiral, and sometimes reach a length of thirty-five or even thirty-six inches over the curve. The ears are longer in the lesser koodoo, but not so broad and round in proportion to its size as in any of its near relatives, such as the greater koodoo, bushbuck or inyala.

The lesser koodoo has a somewhat restricted range extending from Southern Abyssinia to the northern districts of German East Africa. Away from the coast it is very local, but it may be met with in the neighbourhood of the Uganda railway at various places from Maungu to Matito Andea, as well as along the southern border of British East Africa, both in British and German territory, and on both sides of the Northern Gwas N'yiro River, between Chanler's Falls and the Lorian swamp. Lesser koodoos live in thick, scrubby bush, usually near rivers, and are partial to districts where patches of spiky aloes grow in profusion, as along the Uganda railway. They are not very gregarious animals, living either in small herds, or two together, or singly. Near Matito Andea I found them in herds of as many as eight together, one male and the rest females and young animals; but along the Northern Gwas N'yiro River I saw no herds at all, but met with nothing but single males, single females, with or without fawns, or sometimes two females together, each with a young one. Lesser koodoos, when alarmed, bark just like bushbucks and greater koodoos, and as a rule they are very wary and shy, but if they have not got one's wind, they usually only run a short distance on being disturbed before coming to a halt behind a bush or patch of aloes, there to watch and listen for anything approaching them. In the daytime, at least where I have

THE GUN AT HOME AND ABROAD

hunted them, they lie very close in patches of thick scrub, and will not move as long as they think that they have not been seen. Along the Northern Gwas N'yiro River I came to the conclusion that the lesser koodoos did not leave their hiding-places to feed in the evening, before dusk, but in the morning I found them moving about feeding outside the bush for two or three hours after daylight. Though not so difficult to hunt as the bongo, since it does not live in such dense forest undergrowth as that animal, the lesser koodoo can nevertheless only be hunted successfully by slow and cautious methods. Very early morning is undoubtedly the best time to find them, and then a very noiseless advance must be made through the bush they frequent, against the wind. Not the slightest sound must be made, and for this sort of still-hunting indiarubber-soled shoes should be worn, and the hunter should be alone. All native gun-carriers and other attendants should be ordered to follow their master at a considerable distance. If the wind is right, lesser koodoos will often stand and gaze for a moment after their eyes meet those of a human hunter. But sharp eyes are required to spot one of these animals as soon as it is possible to do so, when it is standing amongst bush, and, once seen, one's rifle should be raised and the shot taken without an instant's delay. The sportsman who relies on his native attendant to point out game for him, and who, perhaps, cannot always at once see it when it has been pointed out, will find himself at a great disadvantage in hunting lesser koodoos or any other species of bush-haunting antelopes which, like them, are as quick of hearing as they are sharp of sight and keen of scent.



Photo by]

LESSER KOODOO, from Abyssinia.

[Lafayette.

Length on front curve $33\frac{1}{2}$ inches: Circumference $7\frac{3}{4}$ inches: Tip to tip $10\frac{1}{2}$ inches.

Shot by Mr A. E. Butter.

PLATE XXXV.

THE MOUNTAIN INYALA

TRAGELAPHUS BUXTONI

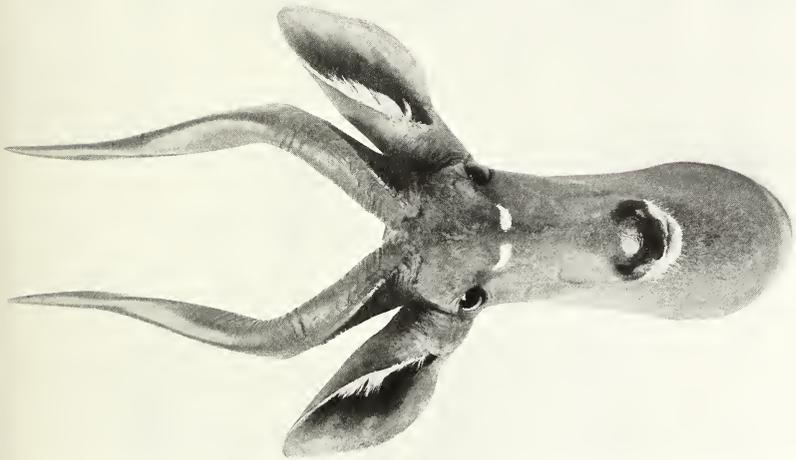
THE old saying, "Semper aliquid novi ex Africa" ("There is always something new coming from Africa"), still holds good, or, at any rate, did so up to the year 1910, when two young English sportsmen—Mr Ivor Buxton and Mr M. C. Albright—brought home to this country several specimens of an entirely new and very interesting species of antelope which they had met with and shot on the Arusi plateau of Gallaland, in Southern Abyssinia.

As no other European besides these two young sportsmen had up to that time ever seen one of these antelopes, and as all the specimens obtained by them seem to have been members of one herd, very little is as yet known about their habits; but they apparently live in a mountainous region at an altitude of some 9,000 feet above the sea, on stony hillsides, where the ground is either open or but sparsely covered with low scrub and rough grass.

The type specimen of this new antelope, which was presented by Mr Buxton to the British Museum, stands, as mounted, four feet four and a half inches at the withers. To most people it would, I think, appear to present greater affinity to the koodoo than to any antelope of the nearly-allied bushbuck group; but the well-known zoologist, Mr R. Lydekker, by whom it was first described, considers that it is more closely allied to the latter genus of antelopes than to the former, and has therefore given it the name of "Mountain Inyala" (*Tragelaphus buxtoni*).

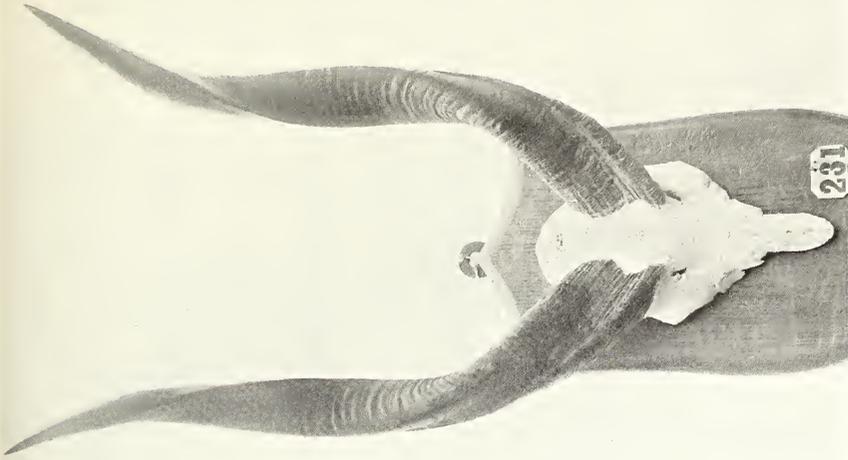
THE BUSHBUCKS

THE bushbucks, amongst which may be included the beautiful Inyala antelope of South-East Africa, are, as their name implies, inhabitants of bush or forest covered regions; but I think that the near proximity of water is also necessary to them, and throughout Africa, south of the Sahara, wherever these two conditions co-exist, one or other of the many geographical races into which the bushbucks have been divided may be confidently looked for. Their range is enormous, and they are found at all altitudes, from the sea coast to a height of 10,000 or 12,000 feet above sea-level. Leaving the inyala out of account, there is an extraordinary amount of difference in the outward coloration of the various geographical races of the smaller bushbucks; but in many cases it can be shown that two apparently distinct species are connected by many intervening forms. For instance, in outward appearance the large blackish-brown and almost spotless male bushbuck, which is found in the deep, thickly-wooded ravines and kloofs of the Cape Colony, is a very different looking animal from the smaller and far more beautiful male bushbuck found on the Chobi River, which is a rich red-brown in ground colour, profusely banded and spotted with white. Yet I cannot but think that if a very large number of skins of male bushbucks were collected from every part of the range of these animals from the Cape Colony to the Chobi River, the two extreme forms would be found to grade into one another by such infinitesimal degrees that it would be impossible to say where the one species ended and the other began. At any rate, all the bushbucks I have shot in South-East Africa, and on the Lower and Central Zambesi and its tributaries, as also on the Limpopo, have all been intermediate forms between the very dark and almost spotless species of bushbuck and the red-brown race, profusely spotted and banded with white. The coloration of bushbucks seems to depend to a considerable extent on their environment, as where these antelopes live in very dense bush, and where the climate is moist, as in the dark ravines near the sea-coast of the Cape Colony, and in the great forests on the Mau escarpment, and the Aberdare range in East Africa, the male bushbucks are very dark in colour, with very few and very small white spots on any part of the body; whilst in the more open forests and drier climate of Northern Mashonaland and the neighbourhood of the Chobi River, they are redder in ground colour and striped and spotted with white in varying



RECORD BUSHBUCK.

Length on front curve 52 cm.; Circumference 16½ cm.; Tip to tip 15 cm.
In the collection of the Hon. Walter Rothshild, at Tring, Herts.



RECORD LESSER BUSHBUCK, from S. Africa.

Length on front curve 20½ inches; Circumference 6½ inches;
Tip to tip 10½ inches.
In the collection of Sir Edmund G. Loder, Bt.

THE BUSHBUCKS

degrees, according to locality. In habits, however, bushbucks are the same throughout their range. Being very nocturnal, they are seldom met with during the heat of the day, unless suddenly disturbed in their resting-places. They must be sought for early in the morning and late in the evening, as at such times they may be found feeding outside the dense bush in which they are accustomed to pass the heat of the day. Sometimes on cold mornings they will stand sunning themselves outside the bush till quite a late hour, but at such times they are always very much on the alert, and can only be approached by very careful stalking. When alarmed, bushbucks bark loudly, almost like a dog, and as this sound is often heard at nights, it is possible that it is also used as a call-note when the males are looking for the females during the pairing season; for bushbucks are very solitary animals, the males and the females living apart and alone except when mating. The latter are, however, often accompanied by a last year's fawn almost as big, if a male, as themselves. The spoor of all bushbucks is an exact replica in miniature of that of the koodoo, and differs from that of all other genera of antelopes in that the line from the point of the toe to the heel is rounded instead of being straight.

Stalking bushbucks at early dawn and in the late evening is a very pleasant and interesting pursuit, and to be successful requires all the woodcraft at one's command, for the game is alert and wary, and, owing to its surroundings, difficult to see, except when moving.

A far more deadly method of hunting bushbucks is by driving the jungles or tracts of bush in which they are accustomed to pass the day. This is a favourite sport in the Cape Colony and Natal, where large numbers are annually killed in this way. The guns—only shot-guns loaded with slugs are allowed—having been posted round one end of the cover, of course, below the wind, a small army of natives, accompanied by dogs, enter at the other end and work through it, making as much noise as possible. Old male bushbucks sometimes break back through the beaters, but, as a rule, everything in the bush, bushbucks, duikers and blue bucks, and sometimes even a leopard, goes forward and eventually runs the gauntlet of the guns. In 1876 I took part in one of these bushbuck hunts, not very far from Port Elizabeth, in the Eastern Province of the Cape Colony. The gentlemen whose guest I was had the exclusive shooting rights over a large tract of country in which the game was carefully preserved, only one big organized hunt taking place every year. We camped out in the forest for a week, and in four days' driving eighty-one bushbucks were shot.

THE GUN AT HOME AND ABROAD

Wherever the rinderpest passed through Africa towards the end of last century, bushbucks suffered cruelly from the terrible visitation, but it is believed that in almost every part of their range they have now once more become numerous.

In all, fifteen species or local races of bushbucks have been recognized by English, German, Swedish or American naturalists. How many of these local races are worthy of full specific rank I do not know, but I am quite sure that between the typical bushbuck of West Africa (*Tragelaphus scriptus* [typicus]), which is of a general bright rufous-brown colour, profusely striped and spotted with white, and the bushbuck of the Cape Colony (*Tragelaphus sylvaticus*), in which the male is almost black, with only two or three small white spots on the haunch, there are a vast number of intermediate forms grading imperceptibly the one into the other. In the males of most of the bushbucks there is a sort of collar round the neck several inches wide, almost devoid of hair, but on the Nile, as well as in Somaliland and Abyssinia, bushbucks are found in which the neck of the male is covered all over with a normal growth of hair. A few years ago a male bushbuck was shot on a hill near Nyeri, in British East Africa, at a height of about 7,000 ft. above sea-level. This animal is said to have shown no sign of a collar round the neck, devoid of hair, and has been accepted as a new species and named "Hayward's bushbuck," after the gentleman by whom it was shot. This is very curious, as in 1910 a friend and I shot some bushbucks only a few miles away from this isolated hill near Nyeri, and they showed the usual bare ring or collar round the neck. I have also shot male bushbucks near Ravine Station, and on the Lower Gwas N'yiyo River, in British East Africa, and in every case they showed the collar or ring round the neck, devoid of hair.

THE INYALA

TRAGELAPHUS ANGASI

THOUGH it may be classed among the bushbucks generically, the inyala deserves a few words to itself; for not only is it a king amongst its congeners, by reason of its much greater size, but it is also one of the most beautiful of all the African antelopes. A male inyala will stand from three feet four inches to three feet six inches at the shoulder, and in proportion to its size its horns are larger than in the smaller bushbucks, though of much the same fashion. Its ears are large and rounded, and its general colour a dark grey banded with a few faint white stripes. The lower part of the neck is covered with long shaggy hair, which extends to beneath the belly, and fringes the haunches to the knees. In the females, which are hornless, the general colour is bright red, with a dorsal ridge of black hair extending to the tail, whilst the white stripes on each side are more numerous and much more clearly defined than in the male. For a long time after the inyala was first brought to the notice of European naturalists by Mr George French Angas—after whom it was named *Tragelaphus angasi* in 1848—its range was thought to be entirely confined to a small area of country to the north of St Lucia Bay in Zululand. Since then, however, it has been found to exist further up the coast of East Africa near Inhambani, as well as on the Lower Limpopo, near the mouth of the Oliphant's River, and also in a restricted locality not far from Beira. Up to the present it has not been met with anywhere else to the south of the Zambesi except in the Gorongosa district, but north of that river it re-appears in the thick bush bordering the Moanza River, a tributary of the Shiri, in British Central Africa. Few other antelopes, however, appear to have so broken and so restricted a range as the inyala, as between Delagoa Bay and the Shire River, a distance of approximately six hundred miles, it is only found in three or four widely separated and very circumscribed localities.

I have myself only met with inyala antelopes in a district to the south of Delagoa Bay, where their numbers had been very much reduced by the natives. The first two I saw were a buck and a doe together, and after that all I came across, whether bucks or does, were by themselves, and thus my small experience led me to think that this species was rather

THE GUN AT HOME AND ABROAD

solitary in its habits. But there can be no doubt that in the same district in which I only found inyalas in ones and twos the late William Charles Baldwin forty years earlier found these antelopes running in small herds like koodoos.

At the present time I have lately heard that inyalas may be seen in the Zululand game reserve in herds of ten or twelve together. They have, however, now been carefully protected in this district for a long time, and though they suffered much from the rinderpest, they are quite possibly as numerous again there now as ever they were. Where they have not been much persecuted, as in the protected game reserve above mentioned, inyalas are said to be amongst the tamest and least suspicious of animals; but where they are much disturbed they become shy and wary, and seldom leave the dense thickets, in which they lie hidden during the daytime, before dusk, retiring again to these safe retreats as soon as day begins to break. In the Zululand game reserve, where, of course, they cannot be shot, I am told that they can be seen in the open after sunrise.



INYALA ANTELOPE.
From Amatongaland, South-East Africa.

Shot by Mr F. C. Selous.

PLATE XXXVII.

THE SITUTUNGAS

TRAGELAPHUS [LIMNOTRAGUS] SPEKEI
OF EAST CENTRAL AFRICA

TRAGELAPHUS [LIMNOTRAGUS] GRATUS
OF WEST CENTRAL AFRICA

TRAGELAPHUS [LIMNOTRAGUS] SELOUSI
OF SOUTH CENTRAL AFRICA

ALTHOUGH the word "situtunga" is only used by one small tribe of African natives to designate a certain species of antelope nearly related to the bushbucks, which is found in the great reed beds and papyrus swamps of the Upper Zambesi, the name has now been adopted by all sportsmen and naturalists for all the geographical races of these water-loving antelopes wherever they are met with throughout Africa.

Wherever great reed beds and papyrus swamps exist in that continent there situtungas of one kind or another are sure to be found. In the southern race, whose habitat extends from Lake N'gami to Lake Bengweolo, both males and females, when adult, are of a uniform light brown. The young are much darker in the general colour of their coats, which are, too, beautifully striped and spotted with yellowish white. I once obtained from a native on the Chobi the skin of a young situtunga, taken from its mother's womb just before birth. This little skin was the colour of a very dark moleskin, beautifully banded and spotted with yellow. Below the stripes a line of spots ran from the shoulders to the haunches, which latter were very profusely spotted. The whole pattern of the spots and stripes on the skin of this foetus situtunga was identical with that attained to by the fully adult male bushbucks found in the dry forest-covered ground along the southern bank of the Chobi. Nothing, I think, could prove more conclusively the common origin of these two species of antelopes, although to-day they are found living under such very different conditions. Besides the southern race of situtungas, two or three other nearly allied forms are recognized. In the race which is found in Uganda and which seems to extend southwards as far as the Upper Zambesi, where it intergrades with the southern form, the young are red in ground colour, spotted and striped with white, and although the males, when adult, become dark

THE GUN AT HOME AND ABROAD

brown and lose their spots and stripes, the females never lose their red coloration. But, after all, the differences between the various geographical races of situtungas are only superficial, and wherever these animals are found their habits are the same. The horns of the situtungas are very handsome, being spirally twisted as in the koodoo, and attaining a length of over thirty inches over the curve. Passing their lives as they do in flooded reed beds and papyrus swamps, the hoofs of these antelopes have become very much elongated, which no doubt enables them to pass over very boggy ground in which short-hoofed antelopes would sink. The coat of the situtungas is long and silky, and its skin is much prized by the natives, by whom, after having been pared down and dressed, it is used as a cloak or blanket.

The shy and retiring habits of the situtungas, and the density of the vegetation amongst which it lives, have given rise to the idea that it is a rare animal; but, as a matter of fact, it is quite plentiful in almost every swamp or reed bed throughout the interior of Africa, where the conditions are suitable to its existence. During the daytime it lies up in the midst of the flooded reed beds and papyrus swamps it frequents, but commences to feed in the evening, and during the night will come into open boggy ground, from which the old reeds have been burnt, in search of the young green sprouts. By sneaking quietly round the edges of swamps frequented by situtungas, or paddling silently along the channels by which they are intersected, late in the evening or just at break of day, it is always possible to get a shot at a fine male situtungas; but there is no certainty about securing a specimen in this way in a given time. If, however, a swamp can be found in which situtungas are living which is not of too great extent, these antelopes can be shot very easily by driving, in the same way in which bushbucks are shot in the Cape Colony and Natal. The guns must be posted below the wind at one end of the swamp, and a sufficient number of natives engaged to cover the whole width of the swamp as they advance through it. In the Barotsi valley, on the Upper Zambesi, before the country was administered by the British South Africa Company, large numbers of situtungas were annually killed in the great drives which were organized principally for the purpose of killing lechwe antelopes. Numbers of situtungas were also killed by the natives of the Chobi and Upper Zambesi whenever the reed beds in which these antelopes lived were flooded to a sufficient depth to allow of the passage of a canoe through the reeds. At such times the situtungas had to live in fairly deep water, and the natives



SITUTUNGA ANTELOPE.
From the Chobi River, South Africa.
Killed in fight with a rival male.
Found dead by Mr F. C. Selous.

THE SITUTUNGAS

told me that when they saw a canoe approaching it was their usual habit to sink down in the water until their bodies, heads and horns were entirely submerged, only their nostrils just appearing above the surface. Such animals as saw or heard a canoe approaching before they had themselves been seen would in all probability be passed unnoticed; but when the natives saw them before they had crouched down in the water, they had only to paddle up to them and spear them from the canoe. From the fact that nearly every native I met with on the Chobi was wearing a situtunga skin, and that all the animals from which these skins had been taken had certainly been speared and not shot, the account given me of their habits when approached in deeply flooded swamps is, I am inclined to think, true; but, on the other hand, a female situtunga which I once came upon, which was standing in water which came above her belly, dashed off in a series of leaps the instant she saw me. The chief of a small village near the junction of the Chobi and Zambesi Rivers once told me that he and his people had, during a heavy flood, the preceding year speared fifteen situtungas in one day in a neighbouring reed bed.

WATERBUCKS AND KOBS

THE WATERBUCK (*COBUS ELLIPSIPRYMNUS*) AND ITS CONGENERS

THE genus "Cobus" includes all the different species of waterbucks and kob antelopes which are found in the neighbourhood of all African lakes and rivers south of the Sahara and Abyssinia, with the exception of those regions in the extreme south and south-west of the continent, where there is too little permanent water to suit their requirements, or from which they have been driven by a dense native population.

In all the antelopes belonging to this group the females are hornless, but in the males these appendages are always present, and in several species are not only of large size, but also of great beauty. In all, the horns, after first bending backwards, curve forwards in a graceful sweep. They are strongly ridged from the base upwards for about two-thirds of their length, the remaining portion being smooth and polished. Perhaps the best-known member of the genus *cobus* is the common waterbuck (*Cobus ellipsiprymnus*). This handsome antelope, which stands nearly four feet in height at the shoulder, is of a uniform dark greyish brown colour, with a broad white elliptical ring over the hind quarters, from which it takes its specific name. The hair is coarse and shaggy, especially on the neck, which, with the shapeliness of the head and the length and beauty of the deeply ringed, forward-curving horns, combines to make a fine waterbuck head an especially handsome trophy. The typical common waterbuck is found throughout the eastern side of Africa from Zululand to Somaliland, and it is also plentiful in the country lying between the Limpopo and the Zambesi, as well as on the Botletlie, Chobi and Okavango Rivers. The longest pair of waterbuck horns I ever saw in South Africa measured thirty-five inches over the curve, and the animal which bore them was shot on the Limpopo River. It always appeared to me that the waterbucks which I met with on the Limpopo and its tributaries grew to a greater size and carried on the average longer and heavier horns than those I saw further north and east. On the Chobi, as well as along the Central Zambesi, and in Matabeleland and Mashonaland, I never saw a pair of waterbuck horns which measured over thirty-two inches in length, and thirty-inch horns were exceedingly rare, though waterbucks abounded



RECORD WATERBUCK.
From near Delagoa Bay, South Africa.

Collected by Mr F. Barber.

PLATE XXXIX.

WATERBUCKS AND KOBS

on all the rivers. In the low, swampy country in the neighbourhood of Beira, waterbuck horns were always much thinner and lighter than those of the same species from the Limpopo, and seldom attained a length of over thirty inches. I have, however, seen some very beautifully shaped heads from that district. In East Africa I have seen a good many common waterbucks on the Simba and Athi Rivers, but they all carried such poor heads that I never felt tempted to shoot one. In those districts I believe that the horns of fully adult bulls are often not more than twenty-four inches in length, and seldom or never exceed twenty-eight inches.

As a rule, waterbucks are met with in herds which may number anything from five or six to twenty or thirty individuals, but in certain districts they may collect together in very much greater numbers. In 1891 and 1892 I found very large herds of these animals living on the open grass plains between the Urema River and Lake Sungwe, in Portuguese East Africa. No doubt they had collected together from all the surrounding districts to feed on the young green grass. One evening I counted sixty bulls all feeding together. The greater number were young bulls, certainly, but they were all males. I met with great droves of waterbuck cows in the same district. Probably in the rutting season each old waterbuck bull secures a certain number of cows for himself, and will not allow any other bull to join them, but at other times of year half-a-dozen bulls of different sizes may be found living amicably together with a herd of cows. As with all other antelopes, old waterbuck bulls often live alone. Although waterbucks are never found at any great distance away from a lake, a swamp, or a river, they are very partial in some parts of the country, such as the northern slopes of Mashonaland, to very rough, hilly country. If encountered in such places, they always make for the nearest river, and will scramble up and down the roughest and rockiest hillsides with the agility and sureness of foot of wild goats or sheep. When chased by dogs, they always make for water, and will readily swim a good-sized river to escape them, or stand at bay in a small pool where their assailants cannot reach them except by swimming.

Waterbucks are heavy, powerful animals, and so tenacious of life that they will often travel long distances after having been badly wounded, though not hit in a vital spot. It is more satisfactory to shoot these animals with a fairly heavy rifle than with one of very small bore.

Broadly distinguished from the common species by their generally more

THE GUN AT HOME AND ABROAD

rufous colour, and the absence of the elliptical white ring over the rump, many other local races of waterbucks are found all over the well-watered districts of Africa to the westward of the range of the typical *Cobus ellipsiprymnus*. In all these races the white rump ring of the common waterbuck is replaced by a large and continuous area of white over the hind quarters below the root of the tail. These races of waterbucks are generally known as Defassa waterbucks, from the Abyssinian name for that animal. The typical "defassa" waterbuck (*Cobus defassa typicus*) is the race found in Western Abyssinia, which extends from thence down the Blue Nile, up the White Nile, and throughout Central and Western Africa. The waterbucks found in Uganda (*C. d. ugandæ*) and in the Gambian region (*C. d. singsing*) appear to be merely local races of this species. All these waterbucks are of a much more rufous coloration than is the common waterbuck of South and East Africa, and the front of the face is darker, with more white round the eyes and the muzzle than in that species. In the country between Lake Mweru and the Zambesi there is a race of waterbucks (*C. d. crawshayi*), in which the coloration is dark grey, as in the common waterbuck, but in which the rump is white as in the typical defassa; whilst in Southern Angola, to the south of Benguella, is found another dark race of waterbucks (*C. d. penricei*), in which the broad white elliptical rump mark is also replaced by a continuous area of white. It always appeared to me that the rufous defassa waterbucks I met with on the Nzoia River, near Mount Elgon, were larger and heavier animals than the common waterbucks of South Africa. Their horns were also very heavy and of good length (from twenty-eight to thirty-two inches). On the White Nile and the Bahr-el-Ghazal and its tributaries very fine waterbuck heads are sometimes obtained, though I have not heard of any horns from these districts measuring over thirty-three inches. The finest waterbuck heads in Africa, however, come from Toru and the western side of Lake Albert. In these districts the horns of the local race of the defassa waterbuck appear to ordinarily exceed thirty inches in length, whilst several magnificent specimens have been obtained of from thirty-five to thirty-seven inches. In the near neighbourhood of Nairobi, in British East Africa, the ranges of the common and the defassa waterbuck would seem to meet, as Mr A. Blaney Percival, the assistant game warden in that territory, informs me that he has seen the two species running together in one herd.

All species or races of waterbucks, wherever they may be met with in



Photo by

[Hy. Dixon & Son.

UGANDA KOB (MALE).
From Nzoia River, British East Africa.

Shot by Mr F. C. Selous.

PLATE XL.

WATERBUCKS AND KOBS

Africa, are precisely similar in their habits and mode of life, and no one, I think, could tell by looking at any particular skull and horns of a waterbuck whether the animal they belonged to was killed in Abyssinia or South Africa. It appeared to me, however, that the defassa waterbucks I met with on the Gwas N'gishu Plateau, in British East Africa, were of a fiercer and more aggressive disposition when wounded than any of their congeners I had ever met with before.

THE KOB ANTELOPES

THESE beautiful antelopes, though structurally all nearly related one to another, and to the waterbucks, may yet be separated by their habits of life into two groups—the long-hoofed, water-loving kobs and the shorter-hoofed species which, though they are never found anywhere but in the immediate vicinity of rivers and swamps, yet prefer to keep out of the water, and, indeed, pass most of their time with their feet on dry ground. In the first category I would place the lechwis, both the red and black varieties, and Mrs Gray's kob, and in the latter Buffon's kob, Thomas's kob, the white-eared kob, and the Puku kob.

THE LECHWI

COBUS LECHE

THIS handsome species was first discovered by Dr Livingstone in 1849 on the Botletlie River, to the south of Lake N'gami, and thirty years later I found it still fairly numerous in the same locality. From there northwards it is found in the neighbourhood of all the rivers and lakes of Central and South-Central Africa wherever there are large expanses of inundated country, or in which shallow lagoons exist. To the south of the Zambesi it used to be particularly numerous in the open grass plains, which were periodically inundated by the overflow from the Okavango, Tamalakan, Machabi and Chobi Rivers. In the Barotsi Valley it was also very common, as well as on all the swampy rivers flowing into the Upper Zambesi from the east, such as the Lumbi and the Majili. Further north it was and is still very abundant on the Kafue River and its tributaries, as well as in the neighbourhood of Lakes Mweru and Bengweolo. Personally, I have never met with lechwi antelopes except in flooded ground or the immediate neighbourhood of such ground. They appeared to spend the greater part of their time knee-deep in water, grazing over flooded meadows, or in shallow lagoons, where the young reeds were not entirely submerged. I have often seen large herds of lechwi lying resting in shallow water, or just on the edge of such water. A glance at their feet is sufficient to show their aquatic habits, for although the hoofs of the lechwi are not as long as in the situtunga, they are much longer than in any other of the kobs except their near ally, Mrs Gray's kob, which is equally aquatic in its habits. In both the lechwi and Mrs Gray's kob, as also in the situtunga, the skin of the feet is devoid of hair at the back of the main hoofs up to the lateral hoofs; whilst in the waterbuck and all the dry-ground frequenting kobs, this portion of the feet is covered with a thick growth of hair, as, indeed, is the case with all other African antelopes.

A male lechwi will stand about forty inches at the shoulder, and carries very beautifully shaped horns, which, after first curving backwards, bend very sharply forwards, much more so than in the waterbuck. In length of horn the lechwis found in the neighbourhood of Lake Bengweolo seem to far surpass those inhabiting the swamps of the Chobi and Central Zambesi, as in the latter localities twenty-eight inches over the curve is about the

THE GUN AT HOME AND ABROAD

maximum length they ever attain, whilst specimens have been obtained at Lake Bengweolo with horns measuring up to thirty-five inches. As in all the kobs and waterbucks, the females are hornless. In both sexes the colour of the upper parts of the body is rich red brown, but the face and lower part of the neck and sides are much lighter. The backs of the ears in adult animals are of a uniform fawn colour, but in young animals the ears are tipped with black as in the adult puku. The belly is white and the front of both fore and hind legs black.

When I first visited the flooded grass plains in the neighbourhood of Linyanti, on the Chobi River, now nearly forty years ago, great herds of lechwi antelopes were to be seen in every direction. Amongst these large herds there were always many males of all ages from the year-old bucks to the full-grown animals, whose long lyre-shaped horns made them very conspicuous in the open ground they frequented. I once counted fifty-two male lechwis together, but they comprised bucks of all ages. When much hunted, lechwi antelopes soon grow wary, and are difficult to approach, but in the countries where I first met with them they would usually allow me to walk up to within a hundred and fifty yards of them in the open, and often much nearer before running off. When they make up their minds to run, lechwi antelopes invariably first stretch out their noses, and then trot leisurely away, the old males laying their horns back along each side of their necks. They soon, however, break into a gallop, often bounding high in the air, like impala antelopes. As they are nearly always in shallow water, a herd of lechwis in full flight causes a great deal of splashing, as even when the water becomes so deep that their bodies are nearly submerged, they keep on plunging forward in a succession of bounds from the bottom. In deep water they can swim at a great pace, though not so fast as the natives can pole and paddle in their canoes.

I may here remark that my friend Captain C. H. Stigand has informed me that Mrs Gray's kob has exactly the same habit of first stretching out its nose and laying its horns back on each side of its neck when first starting to run as the lechwi, and this habit, combined with its whole mode of life, the shape of the horns in the males, and the structural peculiarities of the feet due to the aquatic life led by both species, fully justify that very observant naturalist, Mr Theodore Roosevelt, in speaking of Mrs Gray's kob as Mrs Gray's lechwi, and claiming for it a very close relationship with the true lechwi.

Immense numbers of lechwi antelopes used to be killed annually in the



Photo by]

[Hy. Dixon & Son.

LECHWI ANTELOPE (MALE).
From the Chobi River, South Africa.

Shot by Mr F. C. Selous.

PLATE XLI.

THE LECHWI

Barotsi Valley, on the Upper Zambesi, by means of drives in which several hundred natives took part. Sometimes the antelopes were driven into deep water and speared from canoes; at others they were driven on to thousands of spear-heads concealed in the grass, which plunged into their chests and bellies as they dashed on to them, killing them in large numbers. These great annual lechwi hunts were undertaken not so much for the sake of the meat as of the skins of the slain antelopes, which are greatly valued by the natives for cloaks and rugs.

In the neighbourhood of Lake Mweru, in North-Western Rhodesia, a race of lechwi antelopes is found in which the males turn partially black, but it does not yet appear to be known whether this colour phase is seasonal, or if, when once attained, it is permanent, and becomes gradually more marked with age. In the young males and females at all ages the coloration is exactly as in the typical red lechwi, but in old males the sides of the neck and face, as well as the upper parts of the body and the front and outer surfaces of the limbs become blackish brown. This black coloration, however, never becomes so intense or so generally diffused over the body as in the case of old males of the typical white-eared kob. This dark-coloured lechwi has been described as a distinct species under the name of *Cobus smithemani*, but in habits and mode of life it does not appear to differ in any way from the typical race, in which both the males and females at all ages retain the uniform red coloration.

MRS GRAY'S KOB

COBUS MARIA

THIS most handsome antelope (named after the wife of Dr J. E. Gray, a former keeper of the Zoological Department of the British Museum) was long classed with the typical waterbucks; but it is certainly more closely allied both structurally and in its habits of life to the lechwi of Central and South-Central Africa, which are always classed amongst the kob group. Thus Mrs Gray's lechwi, or Mrs Gray's kob, would appear to be a more appropriate designation than Mrs Gray's waterbuck.

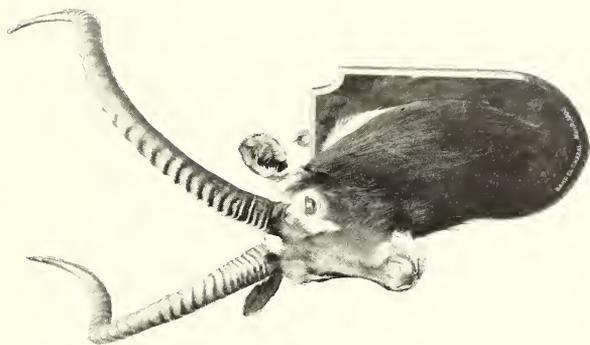
In this species the adult males, which stand about thirty-eight inches at the shoulder, are very dark brown, indeed, almost black in colour, with sometimes a white or yellowish white patch on the back of the neck just in front of the withers. The ears are white with a tinge of yellow, and there is an incomplete circle of yellowish white round each eye. The muzzle, chin, and a whitish patch on the lower side of the throat are also of the same colour. The young males and the females at all ages are of a uniform dark red brown. In the old males the horns are remarkably handsome, growing with a wide spread and in the most graceful curves first slightly forwards, then with a fine sweep backwards, and finally with a sharp curve forwards. In fine specimens they attain a length of thirty inches, the record pair measuring thirty-three and a half inches.

The coloration of the adult male Mrs Gray's kob does not appear to be constant, as Mr Roosevelt found in some of those he shot that the white patch in front of the withers was wanting. Curiously enough, it was wanting in the oldest buck he obtained. It would be interesting to ascertain if any seasonal change takes place in the coloration of the adult males of Mrs Gray's kob, as is undoubtedly the case with the race of white-eared kobs found in the Bahr-el-Ghazal. At present we have very little information on this subject, and such information is very difficult to obtain, as during several months of every year the haunts of Mrs Gray's kob are almost inaccessible, owing to the growth of grass and reeds with which the country is covered.

The range of Mrs Gray's kob is confined to certain districts on the White Nile, Bahr-el-Ghazal, Sobat and Bahr-el-Zaraf Rivers in the neighbourhood of the Sudd regions. The most northern locality in which



MRS GRAY'S KOB, from Atem River.
Length on front curve 31 $\frac{1}{2}$ inches.



MRS GRAY'S KOB, from Bahr-el-Ghazal.
Length on front curve 29 $\frac{1}{2}$ inches.
Shot by Sir Wm. Garstin, G.C.M.G.

MRS GRAY'S KOB

it has been met with is on the island opposite Taufikia, on the White Nile, and the most southerly another island not far north of Mongalla. Mrs Gray's kobs run in large herds, and in their habits and mode of life show their close relationship to the lechwi. Just as in South-Central Africa the puku and the lechwi antelopes are often found living close together, but the latter are always or generally in flooded ground where they are knee or belly deep in water, whilst the former live on dry ground just outside the flooded areas, so on the Upper Nile and Bahr-el-Ghazal the white-eared kobs and Mrs Gray's kobs live near together, but the former keep to dry ground, whilst the latter live with their feet and legs almost always in the water.

THE WHITE-EARED KOB

COBUS LEUCOTIS

THIS very beautiful antelope is found in abundance on both banks of the White Nile to the south of Renk, as well as along the Sobat, Bahr-el-Zaraf and Bahr-el-Ghazal Rivers. To the eastward its range extends up the Sobat to beyond the confluence of the Baro and Pibor Rivers (which together form the Sobat), whilst to the west of the Nile it is very plentiful on all the rivers flowing through the northern and central districts of the Bahr-el-Ghazal province, such as the Lau, Naam, Gell, Tonj, Jur and others.

The white-eared kob is often spoken of as a swamp-haunting species; but although during the rainy season it may in some parts of its range be forced to live at times in swampy places, it certainly prefers to keep its feet on dry ground, and in this respect resembles the Puku, and Thomas's and Buffon's kobs, and differs widely from the only two really aquatic species of the genus, the lechwi and Mrs Gray's kob. Where I have myself met with white-eared kobs on the Naam and Gell Rivers, in the east-central portion of the Bahr-el-Ghazal province, I found them frequenting both the open grass lands on either side of the rivers, and also the open bush tracts beyond the grass lands. They were always on dry, hard ground, and never more than a mile away from the river. As is well known, in the typical white-eared kob of the White Nile and Sobat Rivers, the female and young males are of a uniform dark red colour, with the exception of the white areas round the eyes, and on the throat, chest and belly, and the black markings on the front of both the fore and hind legs. But in the adult male the whole body, together with the front and sides of the face, becomes nearly black, with the exception of the muzzle, throat, and the areas extending from below the eyes to the base of the horns and the ears, which are pure white. The ears themselves are, I believe, always white in both sexes. In the more westerly portions of the range of the white-eared kob I think it is doubtful whether the adult males ever become of so deep a black in colour as on the White Nile and the Sobat, and from my own observations in the former country I have been led to believe that the dark coloration is there seasonal, as the first two male kobs I shot on the Naam River on March 4 and 5, 1911, were entirely red with the exception of a black mark down the nose. Six weeks later I saw a great many kobs on the Gell River, some



Photo by]

WHITE-EARED KOB.

[Hy. Dixon & Son.

Shot by Mr W. N. McMillan.

PLATE XLIII.

THE WHITE-EARED KOB

sixty miles further west. The bucks were then in full rut, and were of all colours from red to dark blackish brown, though the darkest one I saw—and shot—was not as black as the male white-eared kob in the Natural History Museum in South Kensington. From all I saw and heard of the white-eared kobs in the Bahr-el-Ghazal province, I think it is more than probable that in this district the males begin to change from red to black in February as the rutting season comes on, getting darker as the season advances; but I fancy that most of them only turn partially dark, and that none of them become as black as those found to the east of the Nile. During the rainy season, which commences in May and lasts till October, whatever amount of dark coloration has been assumed is probably retained, but as the dry season comes on, this probably fades until by the end of the year, even the darkest-coloured bucks have become red again. Of course, this is only a theory, and it will require careful observation during an entire year to verify or disprove it. Unfortunately, such observation will be very difficult, if not impossible, as in the Bahr-el-Ghazal province the grass grows to a height of ten or twelve feet during the rainy season, and all antelopes are then hidden from view for a period of several months until the long grass becomes dry enough to burn. The same difficulty in making continuous observations on the white-eared kobs will apply equally to the districts east of the Nile, where the rainfall is fully as heavy and where the grass grows quite as long.

White-eared kobs are very plentiful in the countries they frequent, and may often be seen in herds numbering two or three hundred individuals. In the rutting season these great herds break up, from ten to twenty ewes being taken possession of by the strongest bucks, who will not permit any rival to approach their herds. At this time some of the old bucks which have been worsted in battle sulk and live by themselves. The young and half-grown bucks are allowed to accompany the females. Like all other kob antelopes, the white-eared species are not very wary or difficult to approach before they have been much hunted, but no doubt they soon learn wisdom by experience. They are fond of feeding on the sides of large antheps, where the grass is no doubt sweeter than elsewhere, and when their hunger has been satisfied they will often stand on the summit of these antheps for a long time. Should a fine buck be seen in such a position, it is as well to wait until he moves before attempting a stalk, unless there should happen to be bushes or other antheps under cover of which to make an approach.

THE PUKU

COBUS VARDONI

THIS antelope, which is the least showy both as regards its coloration and the size of its horns of all the kobs, was first discovered by Dr Livingstone near Libonta, on the Upper Zambesi, in 1853. A plate in "Missionary Travels" entitled "New African Antelopes Discovered by Oswell, Murray and Livingstone," would indeed lead one to suppose that both the puku and the lechwi were met with in 1849, either on the Botletlie River or at Lake N'gami, as Mr Murray was Dr Livingstone's travelling companion during that year only. But a careful perusal of the letterpress of the great missionary's classic work shows conclusively that he did not recognize the puku as a new and distinct species of antelope until he visited the Zambesi for the second time in 1853. Dr Livingstone, however, in all probability saw puku antelopes near Sesheke, on the Zambesi, during his first visit there with Oswell in 1851 and also during his journey up the river two years later between Sesheke and Libonta, but apparently did not recognize them as a new species until after his arrival at the latter place.

North of the Zambesi the range of the puku is very much the same as that of the lechwi, extending throughout the greater part of North-Western and North-Eastern Rhodesia northward to Lakes Mweru and Bengweolo, and eastward to Lake Tanganyika. Whilst, however, the lechwi has a very considerable range to the west and south-west of the Chobi River (the main affluent of the Upper Zambesi from the north-west), the puku is only found in one spot west or south of the former river, and that is in a very small area of ground just along its southern bank, a little to the west of its confluence with the Zambesi. Here in 1874 I found puku in herds of as many as fifty individuals, and saw as many as fifteen old males together. But in 1876, after the murder of Sipopo, the King of the Barotsi, and the subsequent disturbances, large numbers of refugees fled from the Upper Zambesi and camped for many months on the southern bank of the Chobi just in the puku area, and during that time they almost exterminated these antelopes, as when I paid my second visit to this part of the country in 1877 I found that very few were left. Since that time, however, the puku on this part of the Chobi appear rather to have increased than decreased, as I am told that they are fairly numerous there to-day. The puku stands



Photo by]

[Hy. Dixon & Son.

PUKU ANTELOPE (MALE).
From the Chobi River, South Africa.

Shot by Mr F. C. Selous.

PLATE XLIV.

THE PUKU

somewhat less than forty inches at the shoulder, and both sexes are of a uniform reddish yellow, without any black markings on the legs. The ears are tipped with black, and the coat is rather long, and often rough and curly on the back and loins. As with all the kob antelopes, the males alone carry horns, which in the more northerly parts of their range sometimes attain a length of twenty inches. But south of the Chobi a good average length was only about sixteen inches, and the longest pair of horns I ever saw in that district only measured eighteen inches. Along the Chobi I never saw puku at a distance of more than two or three hundred yards from the bank of the river, and they were usually to be found close to the water's edge, but always on perfectly dry ground. I have seen them many times feeding in company with impala antelopes, and the two species appeared to stand about the same height at the shoulder. The puku were, however, much more heavily built and far less graceful than the impala. When wounded, I always found that puku made for the bush away from the river, but when followed up and hard pressed, they made for the water and tried to escape by swimming. The meat of the puku is, I think, less palatable than that of any other African antelope.

BUFFON'S KOB

COBUS COBA

THERE now only remain to be mentioned the dark-red kob antelopes with buff-coloured ears, whose range extends from West Africa to the N'zoia River in British East Africa. The eastern race, which has been named *Cobus thomasi*, after Mr Oldfield Thomas, of the British Museum of Natural History, appears to be a larger animal with, on the average, somewhat finer horns than the typical West African form, which ranges from the Gambia to Lake Tchad, but in the intervening country, no doubt, intermediate forms exist. The coloration of both the western and the eastern races of Buffon's kob is a rich red brown, with black markings on the front of both fore and hind legs. In both, the backs of the ears are of a general pale fawn colour, becoming whitish near the base on the outside margin. At no period of the year, as far as is known, do the males of either the eastern or western race of Buffon's kob assume a black or dark-brown coloration; but it is said that red kobs are found on the northern shores of Lake Albert, which are not subject to any seasonal change in colour, but in which the ears, as well as the muzzle and a large area round each eye are white. It is possible that the red kobs found in the south and south-western districts of the Bahr-el-Ghazal province may belong to this variety, and that they may merge into the race in the northern part of that province in which the adult males would appear to change colour to a very varying extent, some becoming black or dark brown all over, whilst others only assume a partial darkening of the hair on the face, lower part of the neck and shoulders. The animal described by Dr F. Matschie as *Cobus coba, nigroscapulatus*, probably belonged to this intermediate race. This specimen was obtained in the Bahr-el-Ghazal Province between 6 deg. and 7 deg. N. latitude.

The length of the record pair of horns of the typical race of Buffon's kob is twenty-one and three-quarter inches, and this measurement is not often exceeded in the most easterly districts to which the species ranges. But specimens have been obtained in Uganda where the species would seem to attain to its maximum size, in which the horns measure twenty-four inches. Where I have met with the eastern race of Buffon's kob on the N'zoia River in British East Africa, I found this species similar

BUFFON'S KOB

in habits in every way to the white-eared kob of the Bahr-el-Ghazal and the puku of the Chobi River. They were often in large herds, amongst which there were several adult males—this not being the rutting season—and they were always near the river, usually in the grassy flats on either side of the river's course, but sometimes in the open bush beyond the grass plains. When disturbed, they usually ran off parallel with the course of the river through the grass-covered plains. This grass was five or six feet in height and in the morning saturated with dew. The ground was, however, hard and dry, and the shortness of the hoof in Buffon's kob compared with that of the lechwi or Mrs Gray's kob, is, I think, good evidence that these animals, although they pass their lives like the puku and the white-eared kob in the near vicinity of rivers, lakes and swamps, do not habitually or, indeed, very often stand in wet ground. Where I met with the Uganda kob, there were a great many large anthraxes scattered over the grass lands frequented by these antelopes, and on these they were constantly to be seen grazing, or drying themselves in the sun in the early mornings, after passing through the dew-laden grass.

REEDBUCKS

CERVICAPRA

WHEREVER in Africa any species of waterbuck or kob antelope is found, in the same district one or other of the local races into which reedbucks have been divided will also surely be met with. In fact, it may be said that the range of the reedbuck is not only co-extensive with that of all the species of kobs and waterbucks, but that it is also found in many parts of Africa in which no representative of either of these species exists.

In size reedbucks are somewhat smaller than kobs. They are, too, more gracefully built, and are distinguished from those antelopes by their short fluffy tails and the possession of a circular black patch about the size of a shilling and altogether devoid of hair on each side of the head, below the ears. In some, though not in all, of the races of the reedbuck there is a soft gristly cushion covered with thin black skin at the base of the horns on the front side, which never turns into horn or becomes hard with age. In all the reedbucks the horns are black, but they vary much in shape and size, though they always bend forwards. In the typical southern race, and also in some of the northern forms met with in the Bahr-el-Ghazal province and on the White and Blue Nile, they have a wide spread, and will average over twelve inches in length, sometimes reaching a measurement of from fifteen to seventeen inches. Curiously enough, the range of the typical reedbuck of South Africa and its nearest allies to the north of the equator seems to be cut across by that of the various races of the Bohor reedbuck (*Cervicapra redunca*) which are found from the Gambia to the most easterly districts of British East Africa. In the typical West African Bohor the horns are short and very sharply curved forwards, with the points turned inwards, and in the East African Bohor also this type of horn is most usual; but on the Gwas N'gishu plateau, in British East Africa, I found reedbucks, even in the same valley, carrying horns of two quite distinct types. One of these was the short, thick, sharply crooked Bohor type, whilst in the other the horns more resembled the South African type of reedbuck horn in shape, and were not nearly so sharply crooked forward. In none of the reedbucks I have shot in East Africa was there a soft cushion at the base of the horns.

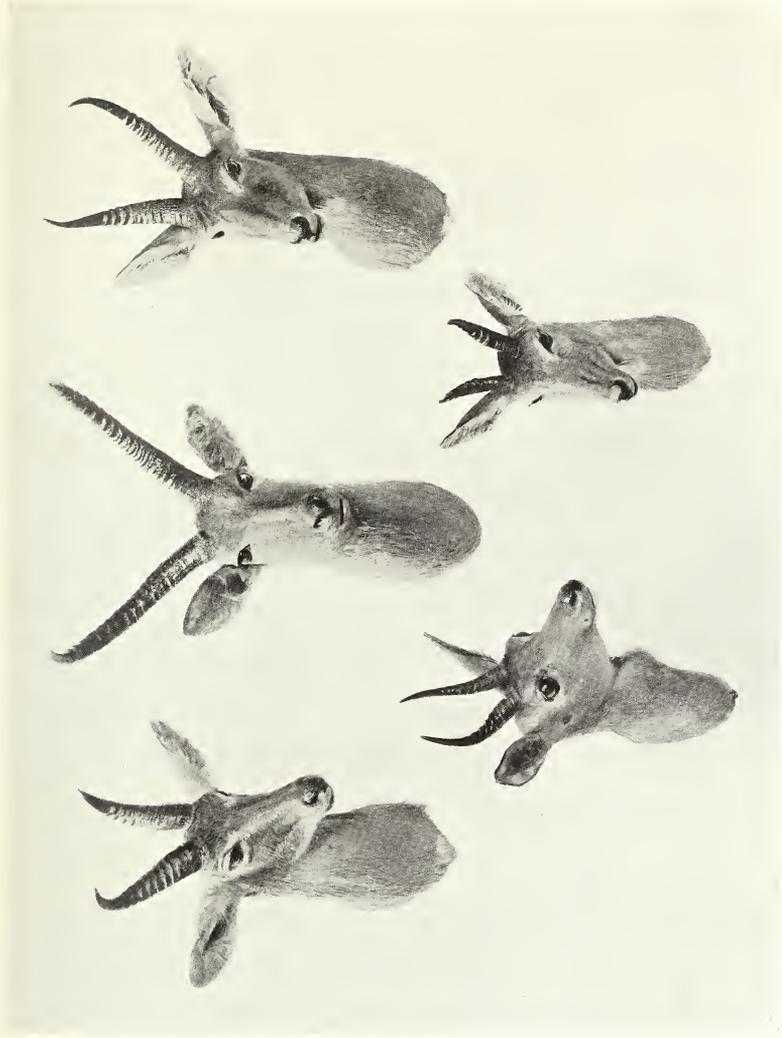


Photo by J

East African Reedbuck (Bohor type).

South African Reedbuck.

Mr. Dixon & Son.

East African Reedbuck (non Bohor type).

Mountain Reedbuck or Rooi Rhebok.

Chauler's Reedbuck.

Shot by Mr F. C. Selous.

PLATE XLV.

REEDBUCKS

Reedbucks are found almost everywhere in Africa, wherever there are rivers, lakes, swamps or reed beds, from the sea coast to the high plateaux of the interior, the altitude of which may be as much as 8,000 ft. above sea-level, as on the Mau escarpment, in British East Africa. Their habits are everywhere the same, and they not only frequent reed beds, but open grassy valleys as well as thin forest or stony ridges, as long as some lake or stream is near at hand. They do not, however, go into wet, marshy ground if they can avoid doing so, feeding rather round the edge of swamps where the ground is dry. In reeds or long grass they lie very close, and are no doubt often passed within a few yards. On several occasions I have seen reedbucks standing in bush lie down when they saw me approaching on horseback and stretch their heads and necks out flat along the ground, hoping that I had not seen them and would pass on without noticing them. When they take to flight, or even when only suspicious of danger, reedbucks give a loud, sharp whistle. As they run, they throw up their bushy tails, exposing the white under-surface. As a rule, reedbucks live in pairs or in families of three or four individuals, but I have seen as many as eight or ten feeding near together, which all ran off in the same direction when disturbed; but I fancy they represented the members of two or three distinct families. When disturbed, reedbucks seldom run far before stopping to look round, and then give a good chance for a shot. They will not remain stationary for long, however, but, after whistling shrilly, will again bound off. Should a reedbuck, after it has been wounded, be chased on horseback, it will make for the nearest water and plunge into a deep pool without hesitation; but if attacked by dogs in such a position, it will not show fight, but will leave the water and take to flight again if capable of doing so.

THE MOUNTAIN REEDBUCKS

CERVICAPRA FULVORUFULA and *CERVICAPRA FULVORUFULA*
CHANLERI

IN addition to the various species and races of reedbucks which justify their name by never moving far away from rivers, lakes or swamps, where reeds usually grow, there are also two nearly allied species of antelopes whose habitat is rocky hills or the steep escarpments of river valleys, where no reeds exist. These animals are in appearance miniature reedbucks, with the same long pointed ears, the same bare spots near their bases, and the same fluffy tails, the white underside of which is always exposed as they run, as in their larger relatives. The better-known of these two species is an inhabitant of all the hilly districts of South Africa which lie south of the Limpopo River, where it is called by all colonists (both British and Dutch) the "Rooi rhebok." To zoologists this species is known as *cervicapra fulvorufula*. In colour these little antelopes are perhaps slightly more rufous than reedbucks, but they are more of a greyish fawn than red. They stand some twenty-six or twenty-eight inches at the shoulder, and their horns turn forwards as in the reedbuck, but are very much smaller, seldom exceeding seven and a half inches in length. It is worthy of remark that whereas in the typical South African reedbuck there is a soft, gristly cushion at the base of the horns at all ages, such a cushion only appears in old males of the rooi rhebok.

These handsome little antelopes are usually found amongst the bushes near the low cliffs which are so commonly met with just beneath the flat tops of the South African hills and kopjes, and the best way to hunt them is to first climb to the top of such hills and scan their sides from above. Rooi rheboks run in families of two or three or in small herds of from five or six to ten or twelve individuals. Old bucks are often met with alone. When alarmed, these antelopes always whistle shrilly, and usually run uphill.

The East African form of the rooi rhebok is known as Chanlers' reedbuck (*Cervicapra fulvorufula chanleri*), and is common not only on all the hills of that territory, but also on the steep and more or less rocky slopes of rivers running through level country, such as the Athi and all its tributaries and the N'zoia.

Chanlers' reedbuck is somewhat smaller than the rooi rhebok of South

Photos by]

CHANLER'S REEDBUCK.

Length on front curve $6\frac{1}{2}$ inches; Circumference $3\frac{1}{2}$ inches; Tip to tip $2\frac{1}{4}$ inches.
Shot by Mr. A. E. Butter.



[Lafayette.

ABYSSINIAN REEDBUCK.

Length on front curve $9\frac{1}{4}$ inches; Circumference $6\frac{1}{2}$ inches; Tip to tip 8 inches.
Shot by Mr. A. E. Butter.



PLATE XLVI.

THE MOUNTAIN REEDBUCKS

Africa, and its horns are shorter and straighter, having only a slight curve forwards at the tip. They seldom measure more than six and a half inches in length. In the old bucks there is always a cushion of skin-covered gristle at the base of the horns which never gets hard or becomes absorbed in the horn. In habits Chanlers' reedbucks are identical with rooi rheboks.

THE VAAL RHEBOK

PELEA CAPREOLUS

THE vaal or grey rhebok (*pelea capreolus*) is an entirely different animal to the rooi or red rhebok, and, indeed, shows no near relationship to any other African antelope, occupying a position apart as the sole member of its genus. Standing a little higher on the legs than the rooi rhebok, these antelopes are of a uniform bright-grey colour, with short bushy tails, the under-surface of which is white. The ears are very long and narrow, and the horns, which are ringed for about half their length, are quite straight, and grow exactly parallel to one another. Their average length is eight or nine inches, but they sometimes attain a length of eleven inches. The naked portion of the muzzle is rather large, and forms a lump at the end of the animal's nose. The coat of the vaal rhebok is soft, rather long and quite woolly.

The range of this antelope is very restricted. It is common quite close to Cape Town, as well as in all the hills and mountains of the Cape Peninsula, and in many other districts of the Cape Colony, as well as in the Orange Free State, and the southern and eastern districts of the Transvaal. It is also found on the southern slopes of the Drakensberg Mountains, in Natal and Pondoland. Although it has been stated that the vaal rhebok is an inhabitant of Bechuanaland and Matabeleland, I have never personally met with or heard of it in either of these territories, though I have seen and shot rooi rheboks in the first-named country. Vaal rheboks may sometimes be met with in pairs, but more usually they live in herds of from five or six to twelve or fifteen. In the central and northern districts of the Cape Colony, as well as in the Orange Free State, I always met with these antelopes on rough, stony hills, and usually fairly high up; but in the Cape Peninsula near Caledon I have seen them feeding close to the post road leading to Bredasdorp, at quite a distance from the nearest steep hill. When disturbed, they climb the roughest hill-sides with great agility, and I have always found them wary and difficult to approach. As in the case of the rooi rhebok, it is always better to climb to the tops of any hills on which vaal rheboks are likely to be found, and then spy and stalk them from above, than to endeavour to hunt them from below. I remember, when travelling through the Cape Colony on my way



RECORD VAAL RHEBOK.
From the Spitzkop, S.E. Transvaal.

Collected by Mr F. Barber.

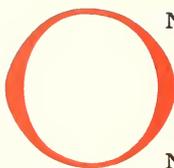
PLATE XLVII.

THE VAAL RHEBOK

to the diamond fields in September, 1871, shooting several vaal rheboks, the skins of whose backs were full of small holes, and embedded in the flesh under each hole was a large white maggot hatched from the egg deposited by a kind of bot-fly in the upper parts of their bodies, after a hole had first been drilled through the skin.

THE IMPALA ANTELOPE

ÆPYCEROS MELAMPUS



NE of the most strikingly beautiful of African game animals, the impala (*Æpyceros melampus*), has a wide distribution, for although it is entirely absent from the whole of Africa to the west of the Nile, in East Africa it ranges from the Tana River to Zululand, and west of Lake Nyassa is found on the Zambesi and all its tributaries, as well as in Southern Angola and all the country lying between that province and the Kalahari. Impalas are also sometimes met with in the depths of the Kalahari itself, where surface-water is entirely absent; but in such cases they obtain a good substitute for water in the juice of the wild melons, which grow plentifully in certain districts of that waterless region. Otherwise, I believe that impala antelopes are never met with except in the near vicinity of water. The local race of impalas inhabiting the country near Mossamedes, in Southern Angola, is distinguished by the presence of a black streak down the nose, but differs in no other respect, either in habits or outward appearance, from animals of the same species found in other parts of Africa. There is, however, a remarkable difference in the average size of the horns of impala antelopes in different parts of Africa, as well as great individual variation in this respect in the same district. In British East Africa impala antelopes undoubtedly attain their maximum horn development; whilst in Portuguese East Africa—on the Lower Zambesi and in the Pungwe River district—these appendages are very small and stunted; yet between the smallest pair of impala horns to be obtained in South-East Africa and the very handsome specimens once obtainable on the Upper Limpopo, animals carrying horns of every intermediate size could be found in the intervening country, and the best Limpopo heads of forty years ago were better than many East African heads. It appears to me, therefore, impossible to separate impala antelopes into different races or species according to the size of their horns, as has been attempted by some naturalists.

In the impala the males alone carry horns, which are of a most graceful form, being somewhat lyrate in shape, and in the finest examples sometimes reach a length of thirty or even thirty-one inches on the curve, and are deeply ringed on the front face to within a short distance of the



Photo by]

IMPALA.

[Hy. Dixon & Son.

Shot by Mr W. N. McMillan.

PLATE XLVIII.

THE IMPALA ANTELOPE

points. I am inclined to think that in East Africa the impala antelopes are larger and of a richer colour than the same animals found on the Central and Lower Zambesi and its tributaries. In the former district the shoulder-height in fine males is said to reach thirty-eight inches. In colour these antelopes are of a very bright rich red brown, which makes them most conspicuous animals when seen either in open ground or amongst thin thorn scrub.

In the impala there are no lateral hoofs, but in their place above the hind hoofs there are two very singular patches of black hair, which have earned the species the name of *melampus*. There is also a remarkable streak of black hair running across the back of the thighs at right angles to the root of the tail, and the tips of the ears and the crown of the head are also black. The undersides of the body and tail are white. The coat is short and very glossy.

Forty years ago impala antelopes were excessively numerous along the Upper Limpopo, where many large herds could be seen any morning in the course of a few miles' walk along the river; and at that time I think they were equally numerous in the low veld of the Eastern Transvaal. On the Zambesi and its tributaries they were also very plentiful, but never, I think, so numerous as on the Limpopo. In many parts of East-Central Africa these beautiful antelopes are still to be met with in large herds, but nowhere, I think, can they be seen in such multitudes to-day as in various districts of South Africa long ago. Where impala antelopes are very plentiful large herds of does are sometimes seen with several old and young bucks in their company; but in the rutting season the does are separated into smaller herds by the bucks, each of which takes charge of as many as he can hold against his rivals. At this time desperate fights take place between the males, and those which are beaten form herds by themselves. Impalas are very light and graceful in their movements, and when they run off after having been disturbed, they are accustomed to bound over bushes or other obstacles with astonishing ease and agility. They are a bush antelope, but avoid dense forests or jungles, usually living amongst open scrub or thin thorns, and with the exception of those which have learned to live on the juice of the wild melons in the Northern Kalahari never go far away from water. On the Notowani, a tributary of the Upper Limpopo, impalas were never found during the dry season at a distance of more than a mile or so from the bank of the river; but as soon as the rains fell, filling all the hollows in the dry country to the west with water, they

THE GUN AT HOME AND ABROAD

at once wandered far afield, not returning to the river until all the outside waters had dried up. Impala feed principally upon grass, but when the pasturage becomes very dry they eat the leaves of certain bushes as well. During the rutting season the bucks are constantly making a grunting noise, and both bucks and does snort when suspicious of danger.

The natural enemies of the impala were the leopard and the wild dog, before civilized man entered upon the scene; but whereas the two former animals never reduced their numbers, though possibly preventing their inordinate increase, the latter has already absolutely exterminated the species in many parts of its range, and will sooner or later bring about its complete extinction. Impala, I think, are not naturally very wary animals, but they become very alert and difficult to approach after having been much shot at. I found a large herd of impalas, which had been much disturbed in the neighbourhood of a wooding camp on the Athi River in British East Africa, living habitually far out on the bare open plain, more than a mile from the nearest bush, in company with Coke's hartebeests, and Thomson's gazelles, in order to escape the constant persecution they had been subjected to by the native gunners, who were constantly prowling about along the wooded banks of the river, trying to get meat for camp.

THE SPRINGBOK

ANTIDORCAS EUCHORE

ALTHOUGH the springbok may be looked upon as a true representative of the large family of antelopes which includes all the gazelles of the old world, it yet differs from all its nearest allies by having only five instead of the usual six pairs of cheek-teeth in the lower jaw. It is further differentiated from all other gazelles by the presence of a deep fold in the skin, extending from the middle of the back to the root of the tail, which it is enabled to open out at will, when a broad blaze of long snow-white hair is displayed, which is normally hidden beneath the fold. When alarmed or excited in any way, or even at play, the springbok is accustomed to bound high into the air, and at each bound half the surface of its back appears to turn from pale fawn to snow-white. It is a most beautiful sight to see a herd of springboks cross a wagon track when chased on horseback. The foremost member of the herd just slightly checks his speed on sighting the marks made by the wagon wheels or on scenting something strange and disagreeable, and then clears the suspected ground with a mighty bound, which carries him high in the air to many yards beyond the further side of the track. As he leaps into the air the broad white blaze of hair on the after part of the back is fully displayed, and flashes in the bright sunlight. Every member of the herd, buck and doe and fawn alike, follows the leader's example, and the effect of a herd of fifty or a hundred springboks bounding and leaping one after the other, or many of them together, their white flags flashing, is one which, once seen, can never be forgotten. Sometimes springboks will bound straight into the air with rigid limbs and curved backs many times in succession, without apparent muscular exertion but as if every time their feet touched earth they were thrown into the air again automatically like a rebounding indiarubber ball. On these occasions they are said to be "pronking," in South African parlance, and at each bound the deep fold on the back is fully opened out and the long white hair displayed.

In general colour the springbok is pale fawn, but the face, throat, belly, inner sides of the limbs, the sides of the tail, and the long hairs beneath the dorsal fold are pure white. The crown of the head is reddish fawn, as well as a narrow streak on each side of the face, which runs from the eye

THE GUN AT HOME AND ABROAD

to the angle of the mouth, whilst a broad band of rich chestnut-brown runs longitudinally along each side from the shoulder to the flank, which divides the fawn colour of the body from the white of the belly. As in all the gazelles, both sexes of the springbok carry horns, which in the males average from twelve to fifteen inches over the curve, but have been known to reach a length of nineteen inches. They are lyrate in form, curving very gracefully first outwards and then inwards, the tips usually inclining directly inwards, but sometimes backwards. In the females the horns are usually very much smaller, slighter, and less twisted than in the males. The longest I ever shot myself measured just over eleven inches, and this is certainly far beyond the average, though longer specimens are known. In height a male springbok stands about thirty inches at the shoulder, and will weigh, when in good condition, about ninety pounds uncleaned. The range of the springbok has always been confined to the south-western portion of the African continent, and it was once very plentiful throughout the open grass and karroo-veld of all the central and western portions of the Cape Colony, as well as on the open grass plains of the Orange Free State and the Transvaal. West and north of the Transvaal its range extends through the Kalahari, Bechuanaland, and the western portions of the Bechuanaland Protectorate to Lake N'gami, and further west into Southern Angola. Speaking generally, springboks live in open country, where they can obtain an extended view in every direction; but in parts of Bechuanaland I have often met with them in bush country—e.g., on the old road between Molipololi and Bamangwato—where I have seen them feeding quite close to giraffes and impala antelopes. My friend, Mr G. W. Penrice, has also recorded the fact that in Southern Angola he has met with springboks in large numbers on the top of a range of hills running parallel with the coast.

Springboks are essentially gregarious animals, though old males are often met with living alone. As a rule, they live in herds of from a dozen to fifty or a hundred individuals, males and females running together in the same herds all the year round.

In periods of drought springboks will sometimes collect together into herds which have been computed to number hundreds of thousands of individuals, and these immense assemblages of antelopes will then move over the country in a solid mass in search of pasturage, sweeping the country they pass through as clean of herbage as would a flight of locusts. The antelopes taking part in these migrations are called by the Dutch



SPRINGBUCK, from Griqualand West, South Africa.

Length on front curve $17\frac{1}{2}$ inches.

Collected by Mr F. Barber.

PLATE XLIX.

THE SPRINGBOK

farmers of the Cape Colony "trek-bokken," which signifies "bucks on trek" or "migrating antelopes." When passing through a small frontier village near the Orange River in the north-west of the Cape Colony some forty years ago, I was informed by a storekeeper there that he himself had witnessed a great migration of springboks not long before. He told me that the open ground round the village seemed to be covered by a solid mass of springboks, and that they poured through the village in a continuous stream for a long time. He also said that some small flocks of goats and sheep were carried away and lost during this great migration of springboks. One must allow something for imagination, but I am sure my informant had actually witnessed an enormous concourse of these antelopes. A migration of springboks was taking place on a much smaller scale in the north-west of Cape Colony when I was in Cape Town in the latter part of 1896.

As a rule, springboks appear to be able to live quite comfortably without drinking water, but in periods of excessive drought, when there are no night dews and no moisture in the dry herbage they are forced to live on, they undoubtedly suffer much from thirst. Mr W. C. Scully, formerly Civil Commissioner for Namaqualand, and a thoroughly trustworthy authority, has recorded the fact of a vast concourse of springboks migrating westwards through Little Namaqualand, in the north-west of the Cape Colony, until they reached the Atlantic seaboard. Here they drank eagerly of the salt water and perished in tens of thousands, their dead bodies lining the seashore in one continuous line for a distance of thirty miles. Springboks which live in open country and have been much shot at naturally become very wild and wary, and can seldom be approached to within three hundred yards; and, speaking of thirty years ago, it was almost impossible to hit a springbok with a Martini-Henry rifle anywhere in the neighbourhood of the Diamond Fields if it was standing looking at one at three hundred yards, and it would be very unlikely to have done so at a closer range. At the flash of the shot it would always spring to one side, and would be yards away from the spot on which it had been standing when the bullet reached that place. I have very often seen blue wildebeests do the same thing.

Further north in Bechuanaland, and in the neighbourhood of the salt pans to the east of the Botletlie River, springboks were in my time moderately tame, and in those localities I have shot a few with a ten-bore rifle and round bullets. In the days when a Martini-Henry rifle (.450 bore)

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with a very high trajectory, was looked upon as the last thing in small bores, springbok shooting was a sport which, in open country and where these animals had been much disturbed, required for its success not only considerable skill as a marksman, but also long practice in judging distances. Some of the Boers of the Orange Free State and other parts of South Africa became from long practice, commenced when they were mere boys, marvellously skilful in this style of shooting, when the very high trajectory rifles they had to use is taken into account. Springbok shooting will always remain an attractive form of sport, but the modern small-bore cordite rifle makes it very much easier than it once was. At certain seasons of the year springboks put on a good deal of fat, and when in good condition their meat is unsurpassed in richness and delicacy of flavour by that of any other wild or domestic animal. Although springboks will probably never again be met with in the vast migrating herds which so astonished the earlier travellers and settlers in the Cape Colony, they will nevertheless be one of the last of African animals to become extinct, as, in addition to the wild herds which will long survive in all the vast arid, irreclaimable wastes of South-West Africa, large numbers are also carefully preserved on almost every enclosed farm in the Cape Colony, as well as in the Orange Free State, the Transvaal and Bechuanaland. The springbok was never known to exist in any part of Southern Rhodesia nor anywhere to the north of the Zambesi.

GRANT'S GAZELLE

GAZELLA GRANTI

OF all the gazelle family, Grant's gazelle is undoubtedly the handsomest, the long, slender, lyrate horns of the males surpassing in length and beauty of form those of any other member of the genus. In size, too, Grant's gazelle surpasses all its congeners, a big male standing as much as thirty-four inches at the shoulder and weighing from 150 to 160 lb. The horn length in the males may reach as much as thirty inches, though anything over twenty-eight inches is out of the common. The females of Grant's gazelle also carry very gracefully formed horns which sometimes reach a length of sixteen inches.

The general colour of Grant's gazelle is a pale fawn with white underparts. There is a white rump patch bordered in front on each side by a narrow black line, whilst a streak of reddish brown runs down the front of the face to a black spot on the nose.

There are many local races of Grant's gazelle, but the differences between any one of them and the typical species first met with by the great African traveller, Grant, are slight and superficial.

The typical race (*gazella granti typica*) ranges over the interior of German and British East Africa from Northern Uhehi to beyond the line of the Uganda railway.

The Usukuma race (*g. g. robertsi*) is met with in the south-western portion of British East Africa and the adjoining German territory. In this race some of the bucks carry horns which are completely twisted round inwards so that their tips are directed backwards and outwards to such an extent that the measurement between them often exceeds twenty-five inches. The horns of the females are also sometimes twisted outwards, though to a lesser degree.

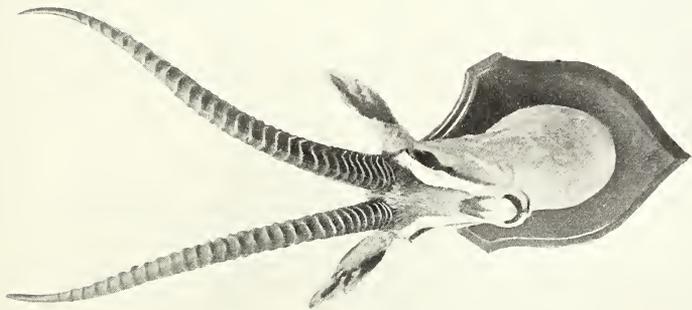
The Tana race (*g. g. petersi*), in which the horns are nearly straight, is only met with near the coast of British East Africa, in the valleys of the Tana and Lower Sabaki Rivers.

The Loroghi race (*g. g. notata*) is said to be found in the valley of the Gwas N'yiyo River, and on the Laikipia plateau to the south-west of Mount Kenia, as well as on the highlands lying to the south and south-eastward of Lake Rudolph. Personally, I think this is a mistake as the

THE GUN AT HOME AND ABROAD

Grant's gazelles I have met with and shot on the Laikipia plateau and both north and south of the Northern Gwas N'yiyo River, from Archer's Post to the Lorian Swamp, do not agree in their coloration with the skin of the type specimen of *g. g. notata* which was shot in the Loroghi mountains. Rather, I should say, do they belong to the Lado race (*g. g. brighti*), in which the rump patch completely surrounds the tail. Putting aside *g. g. robertsi*, in which some individuals carry curiously twisted aberrant horns, all the geographical races of Grant's gazelle met with outside the central plains of British and German East Africa carry horns which lack the beautiful lyrate curve almost always present in those of the typical species. There is, however, much individual variation in this respect. Personally, I have met with Grant's gazelles on the Athi and Kapiti Plains; in the neighbourhood of Lakes Naivasha, Nakuru and Elmenteita; in the Rift Valley near Lake Solai, on the Laikipai plateau, and all along the Northern Gwas N'yiyo River from Archer's Post to the Lorian Swamp; and everywhere, in spite of local differences in the form and average length of their horns and some very slight variations in the extent of the white and dark areas of their skins, I always found them precisely the same as far as their habits, general appearance and mode of life were concerned.

Like most of their relatives, Grant's gazelles undoubtedly frequent by preference open, treeless plains, but they are also quite at home in open bush and amongst stony scrub-covered hills. Along the Northern Gwas N'yiyo it was very common to see a single oryx bull feeding with a herd of Grant's gazelles, and I have also seen the latter in close company with zebras and Coke's hartebeests. I have never seen Grant's gazelles consorting together in very large herds. During the rutting season each full-grown buck lives with as many does as he can collect and hold against all rivals, usually from five or six to a dozen, and later on these family parties collect together into considerable herds in which there will be many full-grown bucks. Old males are often met with alone. Sometimes herds consisting entirely of full-grown males may be seen. Grant's gazelle is, I think, rather a grazing than a browsing species, but along the Gwas N'yiyo, where they frequented open bush country, I found that their stomachs often contained leaves and berries as well as grass. I believe that on the Serengeti Plains and in other districts to the south of the Uganda Railway, Grant's gazelles are found living in very dry arid countries, where surface water is non-existent; but wherever I have myself



GRANT'S GAZELLE, from East Africa.

Length on front curve $27\frac{3}{4}$ inches; Circumference $7\frac{1}{4}$ inches:

Tip to tip $16\frac{3}{8}$ inches.

Shot by Mr W. H. Levy.

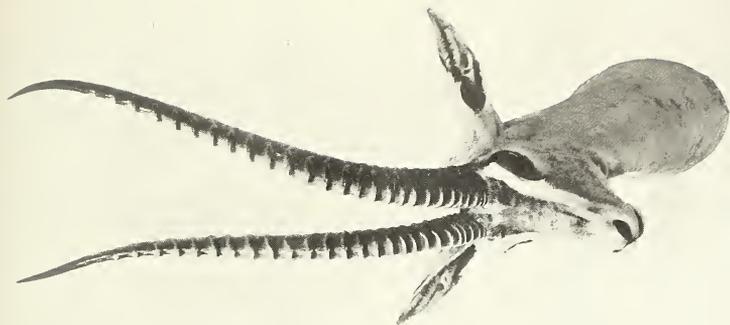


Photo by]

[H. J. Dixon & Son.

Northern Race of GRANT'S GAZELLE.

from the Northern Gwas N'yiyo River, British E. Africa.

Shot by Mr F. C. Selous.

PLATE L.

GRANT'S GAZELLE

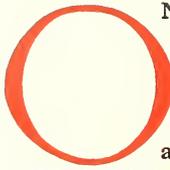
met with these antelopes they were never far away from a lake or river, at which they could have drunk whenever they felt inclined to do so.

There is said to be no regular breeding season for the antelopes living in East Africa. As to this I cannot speak, but in January, 1903, I came on two newly-born fawns of Grant's gazelle, which had been hidden in the grass by their mothers.

Grant's gazelles are not, I think, of a naturally timid disposition, but rather bold and inquisitive animals, though, of course, in open plains, where they are much shot at with long-range rifles, they soon become wild and wary. Along the Gwas N'yiyo River I found them, as a rule, much tamer and more trustful than any other species of antelope inhabiting that part of East Africa. Often they would stand gazing curiously at me as I rode or walked past them within a hundred yards. Sometimes, however, in the same district they were excessively wild. Any modern small-bore low-trajectory rifle is sufficiently powerful to use with good results against Grant's gazelles, a fine head of one of which antelopes is amongst the most beautiful of all African hunting trophies.

THOMSON'S GAZELLE

GAZELLA THOMSONI

N the central plateaux of British and German East Africa this pretty little antelope is found almost everywhere side by side with the typical race of Grant's gazelle, though to the north of Mount Kenia, along the Gwas N'yiyo River, where a local race of Grant's gazelle is abundant, I met with no Thomson's gazelles. On the other hand, whilst Thomson's gazelles are very numerous to the north of Nairobi, to the west of the Athi River, Grant's gazelles are not found in that district, though both species are plentiful to the east of the river. When nearing Rumuruti on the road from N'yeri, I met with numbers of Thomson's gazelles, but I did not come across these antelopes on other portions of the Laikipia plateau which I have visited. Although the Gwas N'gishu plateau, which lies between the Uganda Railway and Mount Elgon, would appear to be well suited to the habits and requirements of both Grant's and Thomson's gazelles, curiously enough, neither species is found there.

In shoulder height Thomson's gazelle stands about twenty-five inches at the shoulder. The general body colour is reddish fawn, and in both sexes and at all ages a broad black flank band dividing the white of the belly from the fawn colour of the body is always present. The males carry horns which grow very straight up from the head, and on the average measure from twelve to fourteen inches in length. Occasionally they reach a length of sixteen inches, but nowadays horns measuring fourteen inches may be considered good. The horns are beautifully ringed from the base to within a few inches of the tips. A dark brown streak runs down the centre of the face to a black spot on the nose, as in Grant's gazelle. In Thomson's gazelle the females are, as a rule, hornless, but in a certain number of individuals small and often malformed horns, three or four inches in length, round and smooth like those of a steinbok, are present.

At a distance one is apt to mistake male Thomson's gazelles for female Grant's, but the former may always be at once distinguished from the latter by the way in which they constantly flick their rather long black tails rapidly from side to side.



Photo by I.

H. J. Dixon & Son.

THOMSON'S GAZELLE (MALE), from British East Africa.

Shot by Mr F. C. Selous.

PLATE LI.

THOMSON'S GAZELLE

Like their congeners, Grant's gazelles, Thomson's gazelles frequent both bare open plains and districts where patches of bush alternate with open spaces. Whether they drink regularly or whether they ever drink at all I do not know, but wherever I have met with them there has always been water in the vicinity. Their food consists for the most part of grass, but they probably eat the leaves of certain bushes as well.

I have never seen Thomson's gazelles consorting together in herds of more than from twenty to thirty individuals, but on the bare plains lying between Lakes Nakuru and Elmenteita, in 1902, I saw hundreds of these antelopes at one time scattered all over the open ground in small herds. There were, too, many single bucks feeding alone.

Of all African antelopes, I think Thomson's gazelles are, or perhaps I ought to say were, the tamest I have ever encountered. On the aforementioned plains near Elmenteita, they would usually allow me to walk up to within a hundred yards of them before taking alarm and trotting off, and eight years later I found them just as tame near Rumuruti. Their meat is excellent, and their heads—at least, those of the bucks—make very pretty trophies, so that large numbers of them are shot yearly by both sportsmen and settlers in British East Africa; yet in spite of this, they still remain far less shy and wild than Grant's gazelles, Coke's hartebeests or zebras, with all which species they are accustomed to consort.

SÖMMERING'S GAZELLE

GAZELLA SOEMMERINGI

THE range of this fine gazelle, which in size is about equal to Grant's gazelle or even slightly larger, extends from the neighbourhood of Suakim on the Red Sea to the Juba River. In parts of Somaliland and Gallaland, and also in the Eastern Sudan, it is very plentiful. In general colour Sömmering's gazelle is a pale fawn with white underparts and a large white rump patch. There is no dark flank band, but a black blaze runs down the centre of the face from the horns to the nose. The horns, which sometimes attain a length of over twenty inches, measured along the curve, crook sharply inwards at the points, and are usually much curved, first forwards and then backwards, but the amount of curvature differs very considerably in different specimens.

Though, perhaps, preferring to live on bare, open plains, where it sometimes congregates in large herds, Sömmering's gazelle also frequents tracts of country which are covered with thorn scrub or open forest. It is often met with in company with hartebeests and oryx antelopes, and seems equally capable with those species of subsisting for long periods without drinking. In habits, Sömmering's gazelle resembles all its congeners, feeding both on grass and the leaves of trees and shrubs. It is not at all wild by nature, and wherever it has not been much persecuted can easily be approached to within shot, especially in those parts of its range where bushes are present to facilitate the stalk. Although very tenacious of life, any modern small-bore rifle, from the '256-bore Mannlicher upwards, is sufficiently powerful for the pursuit of this gazelle.

THE DAMA GAZELLE

GAZELLA DAMA

THE dama gazelle of Senegal, the mhorrr (*g. d. mhorrr*) of Morocco, and the addra or red-necked gazelle (*g. d. ruficollis*) of the deserts of Dongola and Kordofan, which were formerly considered to be distinct species, are now usually regarded as local races of one species. They are the tallest of all the gazelles, the males standing as much as three feet at the shoulder; but, owing to the length of their legs and their comparatively slender bodies, they probably do not weigh as much as average specimens of either Grant's or Sömmering's gazelles.

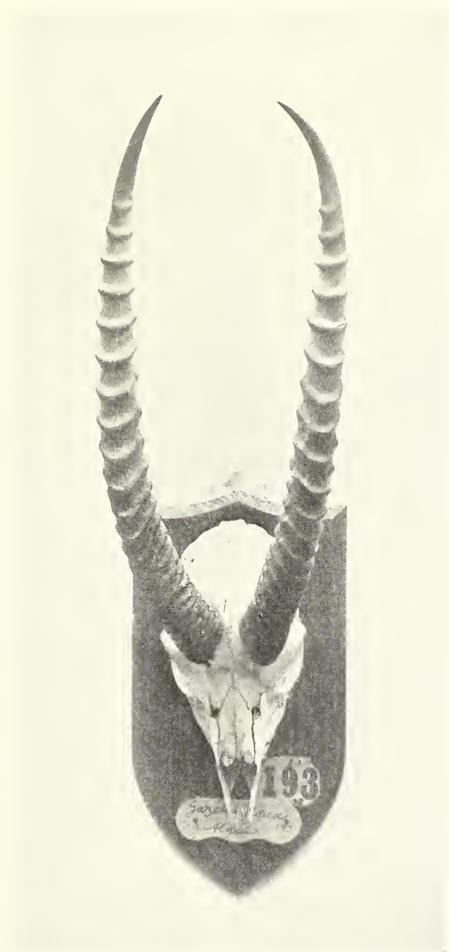
Although the existence of the typical dama gazelle has been known to naturalists ever since the time of Buffon, its habitat does not seem even yet to have been accurately ascertained; but its range is known to extend from Senegal to Lake Tchad, gradually merging to the east into the addra, whose range extends through the Southern Sahara to Kordofan and the Nile. In this desert form of the dama the white rump patch extends over almost the whole body, the neck alone and the saddle behind the shoulders remaining red. In the Senegambian race the red area is more extensive, whilst in the Moroccan race, although the white rump patch is large, the general colour of the body as well as the outer sides of the fore and hind legs is fawn. The horns are similar in all three races, being rather short and massive, and in shape somewhat resembling those of the South African springbok. In the Kordofan race they sometimes reach a length of fifteen inches, the average of specimens from the Lake Tchad district being slightly less.

The addra or eastern representative of the Dama gazelle is now probably better known than either the dama of Senegal or the mhorrr of Morocco, as it has been shot by many British sportsmen of late years. It is said to frequent very open desert tracts of country, where it is met with in small herds on the same ground sometimes as the addax and the white oryx. Like these desert species, it has been bleached almost white, and, like them, my friend Major Malcolm MacNeill, D.S.O., who has hunted and shot it in the deserts of Dongola, found it a very conspicuous animal.

THE SMALLER GAZELLES

IN addition to the larger gazelles already mentioned, there are many smaller species inhabiting various districts of the vast desert regions of Northern Africa. As, in their general habits, appearance and mode of life, all these small gazelles resemble one another very closely, it will not be necessary for the purposes of this volume to do more than enumerate the various species and indicate their several habitats. Living as they usually do in desert regions, either absolutely devoid of cover or amongst thin and almost leafless scrub, and being at the same time keen-sighted and wary animals, gazelles of all kinds require straight shooting, though it must be admitted that the wonderful accuracy of the modern long-range low-trajectory small-bore rifle has made it as easy to hit a small animal to-day at two hundred yards or three hundred yards as it was to hit the same-sized target at one hundred yards twenty years ago with the weapons in use at that time. The commonest and best-known of all the small African gazelles is undoubtedly the Dorcas gazelle (*gazella dorcas*), which is one of the smallest of the whole group, standing about twenty-one or twenty-two inches at the shoulder. The horns, which are of the usual gazelle type, are strongly ringed, and sometimes attain a length of rather more than thirteen inches. The Dorcas gazelle ranges through the desert regions of the interior of Algeria, Tunis and Tripoli.

The Edmi gazelle (*gazella cuvieri*), which is also a North African species, is never found in company with the Dorcas gazelle, being an inhabitant of the mountain plateaux of Morocco and Algiers, where it has been met with at an elevation of between six and seven thousand feet. It is a larger animal than the Dorcas, standing some twenty-six or twenty-seven inches at the shoulder. Its horns are very similar in size and shape to those of Thomson's gazelle, sometimes attaining a length of nearly fifteen inches. Of very similar general appearance to Edmi's gazelle, though somewhat smaller, Speke's gazelle (*gazella spekei*) is an inhabitant of the high plateaux of Somaliland from the Golis mountains to Ogaden. The most remarkable feature about this gazelle is the curious ridged swelling on the nose, which is present in both sexes, although always more developed in the male. Just above this swelling there is a black spot. In shoulder height, Speke's gazelle stands twenty-three or twenty-four inches, and the length of the horns in the male is from ten to twelve inches. In the female



RECORD DORCAS GAZELLE.

From Algeria.

Length on front curve $13\frac{1}{2}$ inches: Circumference $3\frac{3}{8}$ inches: Tip to tip $2\frac{1}{4}$ inches.

In the Collection of Sir Edmund G. Loder, Bt.

PLATE LII.

THE SMALLER GAZELLES

the horns are somewhat shorter, and at the same time slighter, less curved, and less deeply annulated.

Pelzeln's gazelle (*gazella pelzelni*), which is an inhabitant of the maritime plains of Northern Somaliland, and is common near Berbera, is a slightly larger species than Speke's gazelle, and lacks both the curious swelling and the black spot always present on the nose of the last-named species. The horns in Pelzeln's gazelle are similar to but somewhat straighter than in Speke's gazelle, the average length being ten or eleven inches in the males and six or seven in the females.

Loder's gazelle (*gazella leptoceros*) is an inhabitant of the sand dune country in the interior of Algeria and Tunisia. In colour it is of a very pale fawn, the well-known gazelle markings showing but very indistinctly. It is a considerably larger animal than the Dorcas gazelle, the bucks standing over twenty-six inches at the shoulder. The horns are long and slender in both sexes, with very little curve in them. The record length for the horns of a male is fifteen and seven-eighths inches.

Although this species has been known to science since 1842, at which time specimens were living in the Zoological Park of the Jardin des Plantes in Paris, it seems to have been entirely lost sight of for many years subsequently to that date, until in 1894 an English sportsman, Sir Edmund Loder, rediscovered it in the sand desert some forty miles to the south of Biskra, in Algeria.

The Isabelline gazelle (*gazella isabella*) is a pale-coloured species inhabiting the Red Sea littoral in the neighbourhood of Suakim and Massowa. Its horns are said to be more curved than in any other small species of African gazelle, the tips turning sharply inwards. In this respect, however, there is much individual variation, and I found that amongst sportsmen in Khartum the opinion was that the Isabelline gazelle was only a local form of the Dorcas, and that the two species merged by imperceptible differences the one into the other. Certainly, in travelling by rail from Port Sudan, near Suakim, on the Red Sea, to Khartum, one sees gazelles of apparently one species all along the line from the sea coast to the Nile, and if the Isabelline and the Dorcas gazelle are really specifically distinct, it would be interesting to know at what precise point on the railway line the range of the former ceases and that of the latter commences.

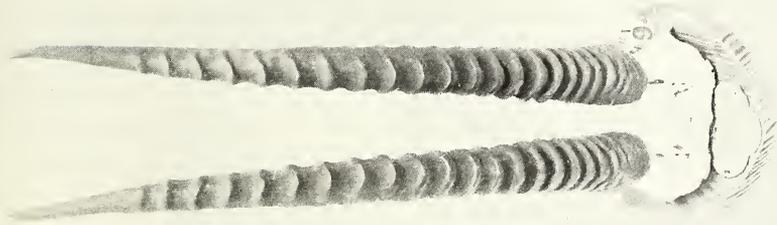
Heuglin's gazelle (*gazella tilonura*) is an inhabitant of the upland plains of Bogosland, Abyssinia and Sennar. In this species the horns are very

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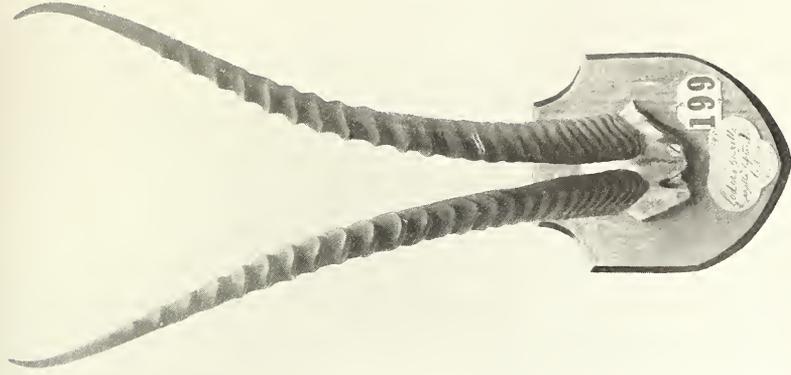
similar to those of the typical Isabelline gazelle, those of the males being crooked sharply inwards; but it is distinguished from that species by its darker body colour, and by the presence of a well-defined black flank band, as in Thomson's gazelle.

The Red-fronted gazelle (*gazella rufifrons*) is an inhabitant of Senegal and Gambia, but further eastwards it is represented by two very nearly allied species or geographical races, the first of which (*g. r. salmi*) ranges through Kordofan, and is also found in the country watered by the Blue Nile and its tributaries, while the second (*g. r. albonota*) is an inhabitant of the eastern side of the Upper Nile from Gondokoro to Bor. In many respects this last-named race of red-fronted gazelle much resembles Thomson's gazelle, especially in the shape of the horns, which are not distinguishable from horns of that species; and it possibly, therefore, forms a connecting link between that common East African gazelle and its distant cousin of Senegambia.

Lastly, we have the Rufous gazelle (*gazella rufina*), a species concerning which practically nothing is known, as it has never been seen in the flesh by a European sportsman or naturalist, but was named from a flat skin purchased by Sir Edmund Loder in Algeria. Although apparently a larger animal than the typical red-fronted gazelle or either of its sub-races, it seems to be nearly allied to these well-known species.



RECORD EDMI or ATLAS GAZELLE, from Algeria.
Length on front curve 14 $\frac{1}{2}$ inches; Circumference 5 inches;
Tip to tip 3 $\frac{1}{4}$ inches.
In the collection of Sir Edmund G. Loder, Bt.



RECORD LODER'S GAZELLE, from Southern Tunisia.
Length on front curve 15 $\frac{3}{8}$ inches; Circumference 3 $\frac{1}{2}$ inches;
Tip to tip 7 $\frac{1}{2}$ inches.
In the collection of Sir Edmund G. Loder, Bt.

THE DIBATAG OR CLARKE'S GAZELLE

AMMODORCAS CLARKEI

THIS remarkable antelope, although undoubtedly possessing many gazelle-like characteristics, yet differs from all the true gazelles in so many important particulars that it has been placed in a genus by itself. Combined with the ordinary face-markings of a gazelle, the dibatag has horns which in shape resemble those of the reedbuck. Its legs are very long for the size of its body. In this respect, however, it does not differ greatly from the dama gazelle, but in no true gazelle is the length of the neck so great as in the dibatag. The tail, also, in this species is very long. The males alone carry horns which, as has been said before, in general appearance resemble those of a reedbuck and have been known to attain a length of thirteen inches, though they seldom measure more than eleven inches. Though the size of the body in Clarke's gazelle is very small, a full-grown male only weighing from 60 lb. to 70 lb., yet, owing to the length of the legs, the shoulder height in this species is as much as thirty-two or thirty-three inches. The body colour of the dibatag is dark brown with purplish reflections, and there is no darker flank band. A rich chestnut-red streak runs down the centre of the face, on each side of which there is a pure white band.

This curious aberrant gazelle is a native of Central Somaliland, and is a very local species, as it has never been met with anywhere but in the eastern portion of the waterless Haud plateau.

Comparatively few sportsmen have seen and shot Clarke's gazelle, and fewer still have recorded their experiences with it. Writing of this species in his well-known book, "Seventeen Trips Through Somaliland," Major (now General) H. G. C. Swayne, R.E., tells us that:

"Dibatag are difficult to see, their purplish-grey colour matching with the high *durr* grass in the glades where they are found. The glossy, shining coat reflects the surrounding colours, making it sometimes almost invisible, and at the best of times its slender body is hard to make out. I have often mistaken female Waller's gazelle for dibatag, and once shot one of the former in mistake for the latter. The habits and gait are much the same, save that the dibatag starts off with head held up and the long tail held erect over the back,

THE GUN AT HOME AND ABROAD

nearly meeting the head, while Waller's gazelle trots away with its head down and its short tail screwed round. Like Waller's gazelle, the dibatag goes singly or in pairs, or small families up to half-a-dozen.

"As is the case with Waller's gazelle, the dibatag is enabled by its long neck and rather long upper lip, to reach down branches of the mimosa bushes from a considerable height. The shape of head and way of feeding of both antelopes are giraffe-like, and I have seen both standing on the hind legs with the fore-feet planted against the trunk of a tree when feeding. I have seen dibatag feeding both on thorn bushes and on the *durr* grass.

"Both Waller's and Clarke's gazelles can live far from water. The country most suitable for dibatag is jungle of the kansa or umbrella mimosa alternating with glades of *durr* grass, which grows about six feet high."

THE GERENUK OR WALLER'S GAZELLE

LITHOCRANIUS WALLERI

THIS remarkable antelope, which differs even more than does the dibatag from the true gazelles, was yet first considered on the evidence of a flat skin to belong to that family; in 1886, after a careful examination of further specimens, it was inevitably placed in a separate genus, of which it is the sole representative. In its general proportions, the gerenuk closely resembles the dibatag, though both the neck and the legs are even more elongated than in that species. The head is singularly small, and the face, on which there are no gazelle-like streaks of black, or brown, and white, is of a uniform light brown, except for the white patches surrounding the eyes. The horns, which are only present in the males, are heavy for the size of the skull on which they stand, and deeply ringed from the base to within a few inches of the tips. Bending first outwards and forwards, then inwards and backwards, and finally crooking sharply forwards at the tips, they attain a length in Somaliland of from fifteen to sixteen or even seventeen inches, but further south, in British and German East Africa, they seldom reach a length of over fifteen inches, and any measurement over fourteen inches may be considered good. In the general colour of its coat the gerenuk closely resembles the impala antelope, being of a rich dark chestnut red on the upper parts of the back and sides, whilst the neck and lower parts of the sides are of a much lighter shade. The underparts are white. So slender is the build of Waller's gazelle that, although a full-grown buck will stand about forty inches at the shoulder, its weight will, as a rule, not be much over 100 lb.

The range of the gerenuk extends from Somaliland to British and German East Africa. The Somaliland gerenuk grows to a larger size, and has finer horns than the typical race found further south. It also shows other small points of difference, such as the absence of the black knee tufts, and a less rufous coloration, and has therefore been described as a distinct species under the name of *Lithocranius walleri sclateri*; but there can be no doubt that the two forms are merely local races of one species, and are probably connected by intermediate forms.

In British East Africa the gerenuk is essentially an inhabitant of hot, arid regions covered with scrubby bush, being nowhere met with, I believe,

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at an elevation of much over three thousand feet above sea-level. It is said to be plentiful on the Lower Tana River, and I have found it to be so all along the Northern Gwas N'yiro, from its junction with the Gwas Narok to the Lorian Swamp. I have also met with gerenuk in the dry, hot country to the south of Voi Station, on the Uganda Railway.

In my own experience I have met with gerenuks either singly or in pairs, or in small herds numbering from three or four to a dozen individuals. At the time of year—February, March and April—that my observations were made on the Gwas N'yiro River, I fancy that the rut was in progress, as, although I sometimes met with a full-grown male gerenuk accompanied by only one female, when there were herds containing from four or five to a dozen females they were accompanied by only one big buck, though there might be one or two younger males with the herd as well. On several occasions I met with two nearly full-grown gerenuk bucks living together which had doubtless been expelled from herds by bigger and stronger males. Although gerenuks are said to be tame and inquisitive in those parts of their range where they have not been much hunted, they very soon lose these characteristics where they have been much shot at, and become excessively wild and wary; and as their eyesight is extraordinarily acute, and their senses of scent and hearing well developed, they become in such districts very difficult to approach. Owing to the great length of their legs and necks, their range of vision is very considerable, and when standing on the alert, behind bushes, with the small head only just showing, and held horizontally so that the horns of the males are perfectly invisible from in front, a gerenuk is very difficult to pick up, yet it will itself see anything which moves anywhere up to a very long distance. On the Gwas N'yiro River, near Archer's Post, I found it most difficult to get within shot of a gerenuk at all; but in the neighbourhood of the Lorian Swamp these animals were very much tamer; and when looking for lesser koodoos on the south side of the river, and still-hunting by myself, and therefore noiselessly, through the thick bush, I on several occasions came so near to gerenuks that I might have killed them with a charge of buck shot. The gerenuk is, I think, by preference a pure browser; at least, all those I shot or saw shot seemed to have nothing but leaves in their stomachs.

Though I often met with gerenuks quite close to the Gwas N'yiro River, I do not think they ever drank there. In fact, I am inclined to believe that they never drink at all, but obtain all the liquid they require by chewing the



Photo by

J. Hy. Dixon & Son.

GERENUK or WALLER'S GAZELLE (MALE).
From the Northern Gwas N'yiro River, British East Africa.

Shot by Mr F. C. Selous.

PLATE LIV.

THE GERENUK OR WALLER'S GAZELLE

leaves of certain plants. On several occasions I saw gerenuks feeding like goats, standing straight up on their hind legs, with their forefeet resting on the lower branches of trees, the leaves of which their long necks enabled them to reach at a great height from the ground. It was a common occurrence along the Gwas N'yiro River to see gerenuks feeding in company with the local race of Grant's gazelle, and on such occasions they were always far more alert, and more ready to take alarm than the latter animals. When alarmed in bush country, and if they think themselves unseen, they lower their heads, and, holding their long necks in a line with their bodies, go off at a trot; but more usually they break at once into a light, springy canter. From my own experience, it would seem that whether the gerenuk is a difficult or an easy animal to shoot will depend entirely upon the locality in which it is met with. If that locality has been much hunted, the gerenuk will certainly be the wildest and wariest species of antelope in the district; but should it be encountered in a country in which but little shooting has been done, then it will be found to be fairly tame and easy to approach. Though standing so high on the legs, the body of a gerenuk is really very small, and when one of these animals is standing full face, with his long legs, narrow chest and giraffe-like neck all in a straight line, it offers about as easy a shot as a telegraph pole. Though extraordinarily tenacious of life, the gerenuk is a small-boned, thin-skinned creature, and any of the modern small-bore, high-velocity rifles is more than sufficiently powerful to use in its pursuit.

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CEPHALOPHINÆ

DUIKER (diver) was the name originally given by the early Dutch settlers at the Cape to a small species of antelope commonly met with there, and very accurately describes the way in which these animals progress through bush and grass, on being disturbed, by a series of leaps and plunges. Since that time a very great number of allied species and sub-species or geographical races of duikers have been discovered, all of which, though they may differ greatly one from another in size, colour and other particulars, have a tuft of hair on the top of the head, which has earned for them the scientific name of *Cephalophus* (head-crest). In the Cape duiker, however, and all its nearest allies the females are—except in rare instances—hornless, and these typical duikers are inhabitants of open bush and forest country and of grass land where there is a certain amount of bush; whilst in all those species of duikers which live only in dense bush the females carry horns as well as the males. All duikers show a black slit on each side of the face, which forms the opening to a large gland beneath the eye. The Cape duiker (*Cephalophus grimmi*) stands about two feet at the shoulder, and only differs from the duikers found in other parts of South, South-East and South-Central Africa, such as *Cephalophus grimmi campbelli*, *C. g. flavescens*, *C. g. ocularis* and others, in that its underparts are fawn-coloured instead of white. In every part of their range the open-bush duikers often differ individually in colour, varying from different shades of greenish or yellowish grey to a pronounced reddish shade. All the typical open-bush duikers of South and South-Central Africa have long pointed ears, which is the only noticeable feature which distinguishes them from the open-bush duikers I have met with in various parts of British East Africa and the Bahr-el-Ghazal province of the Sudan, in which latter races the ears are much shorter and more rounded. The local races of open-bush duikers found in British East Africa have been named *C. g. nyanzæ* and *C. g. hindei*; whilst the form found further north on both sides of the Nile, in which there is a very well defined black mark all down the front of the face from the nose to the base of the horns, has been named *C. g. abyssinicus*.

Wherever I have met with these open-bush duikers, whether in the Cape

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Peninsula or any other part of Africa south of the Zambesi, or in East Africa or the Sudan, I have always found them identical in habits and mode of life. At certain seasons of the year they may be met with in pairs, male and female, or a female with a young one, but during the greater part of the year both males and females appear to live entirely alone. During the heat of the day they lie up in bush or long grass, and will not move unless very closely approached; but in the evening and early morning they may always be found moving about and feeding through the open spaces amongst the scattered bush or open forest they usually frequent. They eat not only grass, but leaves and berries as well, and I always thought their meat very good. In South Africa the females of the common open-bush duiker sometimes carry horns, but in my own experience I have only met with three such cases. Duikers are sometimes hunted with hounds in South Africa, and are said to give very good runs. Female duikers give birth to a single fawn every year at the commencement of the rainy season, and if captured young, these fawns become quite tame in a very short time. The horns of the open-bush duikers average from four to five inches in length, the longest pair known measuring six and a half inches.

The thick-bush duikers are mainly distinguished from the typical *C. grimmi* and its various geographical races by their very small rounded ears, short legs, and the fact that both sexes carry horns. Being all of them inhabitants of dense bush and forests in which there is a thick undergrowth, they are seldom seen, and very little is known of their habits. They may be shot by watching for them in the early morning or late evening in some open space in the jungles they frequent, or by organized drives in which tracts of thick bush are beaten out by a number of natives and all animals they contain driven forward to guns, if the drive has been organized by white men, or into nets if only natives are engaged in the hunt.

As these thick-bush duikers are all of exactly similar habits, it will not be necessary in the present work to do anything beyond describing the different species and enumerating the localities where they may be found.

The crowned duiker (*Cephalophus coronatus*) is a small species, standing about fifteen or sixteen inches at the shoulder, which ranges from Senegambia to Lake Tchad. The general colour of this species is greenish yellow, but the tip of the tail is black, as are the legs below the knees and hocks, whilst there is a dark streak on the nose. In its habits and general

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appearance this little antelope appears to be more closely related to the open-bush races of the duiker family than to those whose habitat is entirely confined to dense jungles.

The yellow-backed duiker (*Cephalophus sylvicultor*) is the largest of the cephalophine antelopes, standing thirty-four inches at the shoulder, and being of heavy build. In both sexes of this species horns are present, which are very small compared with the size of the animal. They grow in a line with the plane of the face, and incline slightly backwards. In length they seldom exceed six inches. The ears are short and rounded, and the coat is very close on the forepart of the body, but longer over the loins. The general colour of the head, body and limbs in this species is blackish brown; but the muzzle, cheeks, chin, and the extremities of the ears are dirty white, whilst from near the root of the tail to the centre of the back there runs a broad band of a yellowish colour. The typical yellow-backed duiker is an inhabitant of the thickly bushed regions of the west coast of Africa, from Sierra Leone to the province of Angola, and probably ranges far into the interior of the continent, as three very closely allied geographical races of the species have lately been discovered—one named *Cephalophus coxi*, in North-west Rhodesia; another, *Cephalophus jentinki*, found in Liberia; and a third in the Ituri forest, to which the name of *Cephalophus ituriensis* has been given.

Abbott's duiker (*C. spadix*), a single adult male specimen of which was obtained by Dr W. L. Abbott, an American naturalist, high up on Mount Kilimanjaro, is a dark-red species whose nearest allies would seem to be Harvey's duiker of West and Central Africa, and the red bush duiker of Natal. It is, however, considerably larger than either of these species, and carries much longer horns, as in the only specimen yet obtained these were four and a half inches long.

The red duiker of South-Eastern Africa (*Cephalophus natalensis*) was, as its name implies, first discovered in Natal, in the neighbourhood of Durban, but it is found throughout the thickly bushed coastlands of Natal, Zululand and Portuguese East Africa, both to the north and south of the Zambesi. It is also met with in Swaziland and the south-eastern portions of the Transvaal; but, although it has been stated that it is found in that portion of Southern Rhodesia known as Mashonaland, I never myself met with it there. In different portions of its range the Natal red duiker shows certain variations in colour and size, and several geographical races have lately been recognized, such as *C. n. amœnus* for the Transvaal race, *C. n.*

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bradshawi for that found in Nyassaland, and *C. n. robertsi* and *C. n. vassei* for two races found in the province of Mozambique, though these two last-named races will probably eventually prove to be identical.

The red duiker of Natal passes the day in the seclusion of dense thickets, only coming out to feed late in the evening, and, as it lives principally upon leaves and berries, it can find most of the food it requires without leaving cover. Like all the members of the genus to which it belongs, the red duiker of South-East Africa is a very solitary animal, both sexes often living alone, though at certain seasons the males and females live in pairs. These little antelopes are seldom killed except by driving, when only shot guns can be used. There are many near allies of the red duiker of South-Eastern Africa inhabiting different parts of the African continent, which are not only very similar in appearance to that species, but whose habits and mode of life are practically identical. Such are the red duiker of the Ituri forest (*Cephalophus centralis*), the black-faced duiker of the Cameroons and the Gaboon (*C. nigrifrons*), Alexander's duiker of the Welle valley (*C. claudi*), the ruddy duiker from the Ruwenzori district (*C. rubidus*), Weyns's duiker from the neighbourhood of Stanley Falls, on the Congo (*C. weynsi*), Johnston's duiker from the Toro district of Uganda (*C. johnstoni*), Isaac's duiker of the plateau forests of British East Africa (*C. ignifer*), Harvey's duiker of the Kilimanjaro district (*C. harveyi*), Leopold's duiker of the Congo forests (*C. leopoldi*), the white-bellied duiker of the Gaboon (*C. leucogaster*), the bay duiker of Sierra Leone and the Gold Coast (*C. dorsalis*), the chestnut duiker of the Cameroons (*C. castaneus*), the white-lipped duiker of Angola (*C. leucochilus*), Ogilby's duiker of the island of Fernando Po (*C. ogilbyi*), Brooke's duiker of Fanti (*C. brookei*), Peters's duiker of the Gaboon (*C. callipygus*), and the red-flanked duiker of the Gambia (*C. rufilatus*). In all these species or geographical races of small bush-duikers both sexes carry horns, and the ears are small and rounded.

The banded duiker (*Cephalophus doriae*) is distinguished from all its congeners by its very striking and peculiar coloration, which is of a pale reddish brown, banded in zebra fashion by a number of black vertical stripes. In height the banded duiker stands about sixteen inches at the shoulder, and both sexes carry horns, which in the male are barely two inches in length, whilst in the female they seldom measure as much as one inch. This most curiously coloured little antelope is an inhabitant of the hilly regions of the interior of Liberia, where it is called by the English-speaking American negroes the "mountain deer." In its habits and mode

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of life the banded duiker appears to be very similar to all other bush-duikers, and is therefore seldom seen unless watched for in the forests it frequents at early dawn or late in the evening.

In addition to the many species of red bush-duikers which occur in all suitable localities all over the African continent, there are also a number of dark, blackish brown, or bluish brown species of very similar habits. Of these the best known is the little blue buck, or blue duiker (*Cephalophus monticola*), which is very common in the coast regions of South-East Africa from the neighbourhood of East London in the Cape Colony northwards.

The bluebuck is an inhabitant of dense scrub jungle, and although in places where it is not much disturbed it may be met with in the early morning or late evening just outside the bush, it can only be driven into the open, even with the help of dogs, with the greatest difficulty, as it will run round and round inside the bush, closely pursued by dogs, and dodge backwards and forwards through a line of beaters rather than cross an open space. When taking part in bush-driving hunts many years ago near Durban, Natal, I found the best way to shoot blue bucks was to take up a position inside the bush, after first notifying my position to my nearest neighbours. In this way I was able to shoot several blue bucks—using a shot-gun and number four shot—as they scurried about in the bush, after having been moved by beagles, which followed their every turn by scent, but did not press them very closely. Living as they do in the shade of thick bush, where no grass can grow, blue bucks are necessarily browsers, existing on the leaves of various bushes. When water is near at hand, they are believed to drink daily, but in times of drought they appear to be able to dispense with water, obtaining all the liquid they require from the leaves of the bushes on which they feed.

The blue buck is one of the smallest of African antelopes, standing not much over twelve inches at the shoulder. Both sexes carry small, sharp horns, which in the male seldom measure more than one inch and a half, and in the females are shorter still. As in the red bush-duikers, and other small thick-bush antelopes of Africa, such as the Sunis, the ears of the blue buck are singularly small, being very short and rounded.

I have met with blue bucks near Massikessi, and on the Revue and Buzi Rivers in Portuguese South-East Africa, but they may have belonged to the local race found in Mozambique, which has been named Heck's duiker (*Cephalophus hecki*), or to the Nyassa race (*C. nyasæ*).

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Several other species of small, dark-coloured duikers more or less nearly related to the typical blue buck, and all of them practically identical with it in their habits and mode of life, are met with in various parts of Central and Western African, such as the Uganda duiker (*Cephalophus æquatorialis*) of Uganda, the black-rumped duiker (*C. melanorheus*), whose habitat extends from West Africa, south of the Niger to East Africa opposite Zanzibar; Maxwell's duiker (*C. maxwelli*), which ranges from Gambia to the Gold Coast; and the Urori blue duiker (*C. lugens*), which is a native of Urori, British East Africa.

In addition to all the above-mentioned species and races of the duiker family of antelopes, a small dark-coloured duiker, standing about eighteen inches at the shoulder, is found in the mountain forests of the hinterlands of Liberia and the Gold Coast, to which the name of black duiker (*C. niger*) has been given. In this species the horns are longer than in any of the species of the small red or blue bush-duikers, measuring in the males three or three and a half inches. Shorter horns are present in the female. To this species a small dark duiker recently discovered in Nyassaland, to which the name of Walker's duiker (*C. walkeri*) has been given, may prove to be allied.

THE ORIBIS

GENUS OUREBIA

THOUGH standing little more than two feet in height at the shoulder, the oribis are yet the largest of all the neotragine family of antelopes, of which they form one of the sub-genera. Their special characteristics are the existence of bare glandular spots beneath each ear, as in the reedbucks, tufts of hair on the knees and at the apertures of the large inguinal glands, and the large size of the suborbital fossæ in the skull, which are required for the reception of the face glands. The males alone carry horns, which grow, as a rule, parallel to one another, though sometimes with an outward spread. They grow straight up from the top of the head, or nearly straight, as they usually have a very slight forward curvature. They are ringed more or less strongly for two or three inches from the base, and measure from four to seven inches in length.

Oribis are usually of a light yellow fawn colour on the back, neck, face and sides, with the underparts white, but some are quite dark brown, and I found the colour variation amongst individual oribis living in the same district of the Bahr-el-Ghazal province of the Sudan very great. There is a black patch on the forehead of all oribis, male or female (in the former it lies between the horns), and wherever I met with these antelopes in South and South-Central or South-East Africa, the terminal two-thirds of their moderately long tails were always absolutely black. But in all the oribis I saw in East Africa—near Landiani and on the Gwas N'gishu plateau—the tails were not black, but fawn-coloured; whilst in the Bahr-el-Ghazal the colour of these appendages varied from fawn to blackish brown, but was never absolutely black as in the South African animals.

There is one curious point about oribis, in whatever part of Africa they may be found, and that is that the females are larger and heavier than the males. This is also the case with all species of dik-diks, but with all other African antelopes the male is, without exception, a larger and heavier animal than the female.* When shooting for meat, and a pair of oribis or dik-diks are seen at such a distance that the horns of the male

*In the case of the Okapi—which stands in a genus by itself—the female is a larger and heavier animal than the male.

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cannot be distinguished, it is always advisable to shoot the smaller animal, for if it is one of a full-grown pair it will prove to be the male, whilst even if it turns out to be the case that the pair consists of a female accompanied by her last year's fawn, the latter will very likely be a young male.

Oribis have a very wide, though curiously broken, range in Africa, and although they have been split up into many species or local races, there is extraordinarily little difference between the typical black-tailed oribi (*Ourebia scoparia*), first met with in the Cape Colony, and the similarly black-tailed oribi of the Gambia (*Ourebia nigricaudata*), its most remote congener, geographically. The range of the Cape oribi has certainly not yet been satisfactorily determined. South of the Limpopo these little antelopes are found, in the eastern portions of the Cape Colony (I have myself met with them quite close to Port Elizabeth and near Graaff Reinet), in Natal, Zululand and the eastern portions of the Orange Free State, and on the high veld of the Eastern Transvaal. I never met with oribis anywhere in the western portions of the Cape Colony, the Orange Free State, or the Transvaal, nor in any part of Bechuanaland. Between the Limpopo and the Zambesi oribis are only found from the neighbourhood of Sena along the coast to the Buzi River, and in the interior in certain restricted areas on the northern slope of Mashonaland, in the neighbourhood of Linyanti, on the north bank of the Chobe River, and in the valley of Gazuma, an open, boggy flat of only a few hundred acres in extent, which is situated about thirty miles to the south-west of the Victoria Falls. North of the Zambesi the oribi has a wide range in British Central Africa and in North-East and North-West Rhodesia. Now the oribi found in the neighbourhood of Sena and Shupanga, on the Lower Zambesi, is said to be distinct from the Cape oribi, and has been named by the German naturalist, Dr Peters, *Ourebia hastata*; but as the range of the oribi extends from Sena all down the coast of East Africa, as far, at least, as the Buzi River, the oribis of the Pungwe district must be Peters's oribis, and not Cape oribis, if Peters's oribi is a true species. If this is the case, are the oribis of Northern Mashonaland, Gazuma Valley and the countries west of Lake Nyasa and immediately north of the Zambesi, Cape oribis or Peters's oribis? Allowing for small individual differences which may occur in any one locality, all the oribis I ever met with in South Africa, from the Cape Colony to far to the north of the Zambesi, appeared to me to be specifically identical. In East Africa a form of oribi is met with in

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the coastal districts with, as a rule, rather thick and strongly ridged horns, to which the name of Haggard's oribi (*Ourebia haggardi*) has been given, whilst the oribis of the interior plateaux, which it was once thought all belonged to the Abyssinian species, have been recently split up into several geographical races, such as Cotton's oribi (*Ourebia cottoni*) and the Gwas N'gishu oribi (*Ourebia microdon*), both from the Gwas N'gishu plateau, and the Kenya oribi (*Ourebia kenyæ*) from the Mount Kenya district. The Abyssinian oribi (*Ourebia montana*) ranges from Abyssinia through the Sudan to the east of the Nile, whilst in the Bahr-el-Ghazal province to the west of that river a form of oribi is found which is very similar to Gosling's oribi (*Ourebia goslingi*), from the upper part of the Welle Valley, which is, I believe, very closely related to the Gambian oribi (*Ourebia nigricaudata*).

The oribis which I shot myself—thirteen in all—in the Bahr-el-Ghazal province seemed to be distinctly smaller and carried shorter horns than the oribis I had previously shot on the Gwas N'gishu plateau of British East Africa. They differed very much in colour individually, some being of a light yellowish colour, whilst others were very dark brown. In some, too, the tails showed no dark hairs, whilst in others they were very nearly black. In all these oribis of the Bahr-el-Ghazal the light-coloured streak above the eye was very much more pronounced than in any other oribis I have met with either in East or South Africa.

As is the case with duikers, bushbucks, and other African antelopes, oribis live and appear to thrive equally well in the hot and steamy coast regions of Portuguese East Africa and on the high, cold plateaux of Mashonaland, and they are, too, equally at home in the hot coast regions of British East Africa and the open downlands of the interior, which rise to a height of over 8,000 ft. above sea-level. On the highlands they live for the most part on the bare open grass downs or in the thin bush which clothes their slopes, but at a lower altitude they are found in open forest or amongst scattered bush. They are not gregarious, but live in pairs or three together—male, female, and last year's fawn. They are sharp-sighted little animals, and often difficult to approach in ground over which they can command an extended view; but in long grass they will often lie motionless till nearly trodden upon. After the grass has been burnt off, and where there is little cover, a feeding oribi, should it see a human being approaching, especially should he be mounted, will often squat down, and, after stretching out its head and neck flat along the ground, lie perfectly

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still, and in this position allow one to pass within a few yards of it without moving. It will, however, be fully on the alert and ready to spring to its feet and bound away at once if it thinks it has been detected. I remember seeing an oribi squat thus on the plain just behind the busy city of Port Elizabeth. I rode slowly towards it and passed within half-a-dozen yards of it, but without ever checking my horse, and the little antelope never moved, but lay motionless in the short grass, with its head flat on the ground and its ears laid along its neck. When disturbed in long grass, oribis often bound high in the air as they run. They are very fleet and enduring, and can only be overtaken by greyhounds.

THE STEINBOK

RHAPHICEROS CAMPESTRIS

IN this species the lateral hoofs are absent, as they are in the typical race of Sharpe's steinbok. In height the steinbok stands about twenty-two inches at the shoulder, and the males alone carry horns, which, though they do not average more than four inches in length, occasionally measure from six to seven and a half inches.

The general body colour of the steinbok differs considerably in different parts of its range, varying from red-brown to silvery fawn. In South African examples there is usually, but not invariably, a crescent-shaped black mark on the crown of the head, which is, I believe, never found in East African specimens. The underparts are white, as are the backs of the thighs below the very short tail.

From the Cape Peninsula northwards the steinbok is found everywhere in suitable localities as far as the Zambesi and Cunene Rivers, but beyond the Zambesi there is a great gap in its range, as it appears to be unknown both in North-Western and North-Eastern Rhodesia, as well as in the greater part, if not the whole of British Central Africa; but it is again met with in many districts of German and British East Africa. Though common in the open or thinly bushed country to the west of Mount Kenia, through which run the various tributaries of the Gwas N'yiro River, I never met with it in the neighbourhood of that river itself between Archer's Post and the Lorian Swamp. Although the East African steinbok has been differentiated from the South African form and given specific rank under the name *Rhaphiceros neumanni*, the differences between the two are so very slight that no field naturalist is likely to admit that there is more than one species of steinbok in Africa which may show slight variations in the colour of its coat in different sections of its range.

Though often met with in open grass lands, the steinbok is seldom found far away from bush or forest, and is more usually encountered amongst scattered bush or in thin forest. It never enters anything in the shape of continuous thick bush or dense jungle, nor is it ever found in mountainous regions.

The steinbok appears to be independent of water, as it is found throughout the year in the most waterless districts of the Bechuanaland Protectorate and the adjacent Kalahari. It is not a gregarious species,

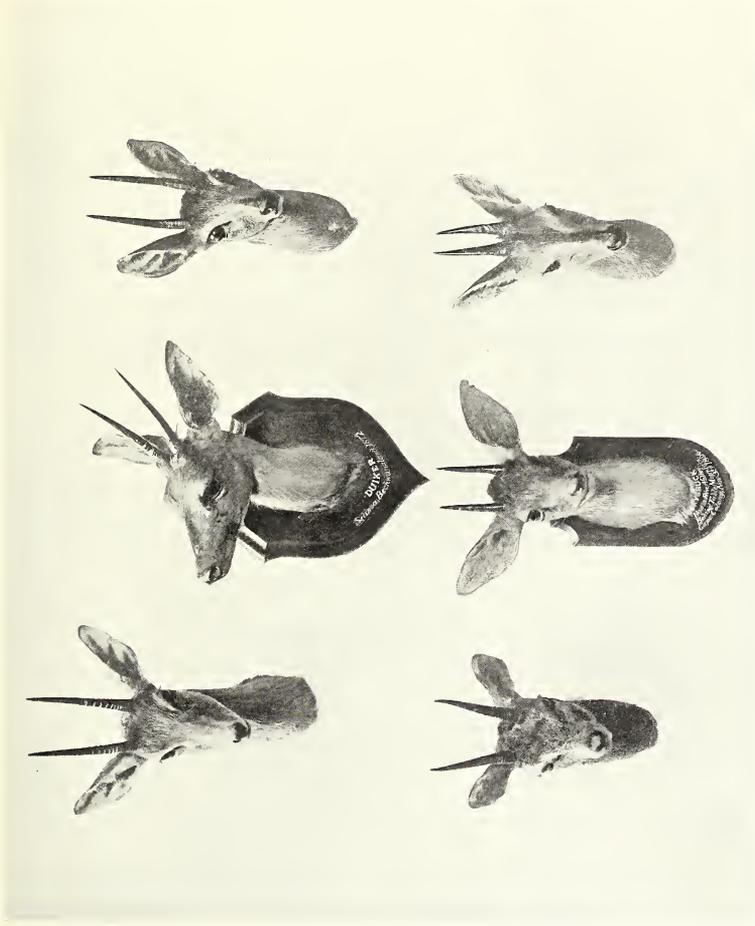


Photo by J

East African Oribi.
South African Klipspringer.

South African Duiker.
South African Grysbok.

Hy. Dixon & Son.
East African Steimbok.
Abyssinian Duiker.
Shot by Mr F. C. Selous.

PLATE LV.

THE STEINBOK

the bucks and does living apart except during the mating season. Only one fawn is born at one time—at least, as a rule. Although steinboks become wild and wary where much persecuted, they are very tame, and will allow a very close approach before taking alarm in parts of the country where they have not been much disturbed. I have seen them walking about and feeding at all times of day; but, as a rule, like most other wild creatures, they lie up in the shade of a bush or tussock of grass during the heat of the day and feed in the early morning and evening. When chased by dogs, steinboks show great speed and endurance, and used to give good sport when hunted with the pack of foxhounds which was formerly kept up at Mafeking in Bechuanaland. In the Kimberley district they were usually coursed by greyhounds. Once as I was walking along a wagon track in a rather thickly bushed district in South Africa, a steinbok crossed some twenty yards in front of me, and I could see that it was in the last stage of exhaustion, as it held its mouth open and seemed all hunched up. As I knew that some animal was chasing it, I stood where I was, and almost immediately a jackal crossed the wagon road at a gallop, with its nose near the ground, and evidently on the steinbok's track. It must have been on the little antelope's trail for a long time, and had nearly tired it out, and I have no doubt that it ran into and killed it soon after it passed in front of me.

THE GRYSBOK

RHAPHICEROS MELANOTIS

THIS little antelope, which stands about twenty-two inches at the shoulder, is still common near Hout's Bay, on the slopes of Table Mountain, as well as in other portions of the Cape Peninsula, and from thence its range extends northwards along the coastal regions of the Cape Colony as far, it is said, as Natal and Zululand. Whether the true grysbok is found in the Transvaal, Swaziland and Southern Rhodesia, or whether its place is taken in those territories by the nearly allied Sharpe's steinbok, seems at present a little uncertain. From 1872 onwards I frequently met with small, dark-red, grizzled antelopes in various parts of the territory now known as Southern Rhodesia which I always thought were grysboks; but, being only armed with heavy elephant guns, I was unable to procure specimens of such small animals. I found these little antelopes very numerous in the hilly country to the south-east of the Victoria Falls, and also amongst the wooded hills of the country now known as Southern Rhodesia, and I also saw numbers of them near the northern bank of the Zambesi, near Kariba Gorge. In those days it was not known that another dark-red grizzled species of antelope, very similar in general appearance to the grysbok, subsequently to be called Sharpe's steinbok, was in existence. This latter antelope, however, is now said to be common in the neighbourhood of Salisbury, Southern Rhodesia; but it is not yet certain that the true grysbok does not exist there as well. I have in my possession a pair of horns which I cut from the head of a small, dark-red, grizzled antelope shot by a friend in December, 1891, in the Umvukwi hills, near Salisbury, which I took to be a grysbok. These horns measure between three and four inches in length, and are quite unlike those of a Sharpe's steinbok. I have also another pair of horns of an antelope which I thought was a grysbok, which was killed by my dogs in October, 1878, in the Machabi hills to the west of Salisbury. These horns belonged to a buck which was only half-grown, but they are much longer than those of any properly identified Sharpe's steinbok. In the same year, 1878, whilst elephant-hunting in the Machabi hills, I saw several bucks of the same dark-red, grizzled species of antelope which I thought were grysboks, with horns which must certainly have been over three inches in length.

THE GRYSBOK

I think, therefore, that it must be admitted that the exact range of the grysbok has not yet been fully determined. It has, no doubt, often been confused with Sharpe's steinbok, but further investigations may prove that the ranges of the two species overlap.

The general colour of the grysbok, when seen at any distance, appears to be dark red, but there are so many white hairs interspersed amongst the red that at close quarters it looks greyish or grizzled. The species is principally differentiated from Sharpe's steinbok by the presence of small lateral hoofs and the length of its horns, which are, on the average, from three to four inches long, and have been known to attain a length of nearly five inches. The ears are very large in both species. Grysboks are met with either singly or in pairs, and are fond of hilly districts, where there is a good deal of cover in the form of long grass and scrub bush; but near Port Elizabeth, in the Cape Colony, I have met with them in thick bush on quite level ground. In the early morning or late evening, when they are moving about feeding, grysboks can be stalked and shot with a small-bore rifle, or they may be walked up later in the day and killed with a charge of shot as they spring from their forms. Though not very swift, they are not easily caught by dogs in hilly country, as they know how to take the utmost advantage of the ground they frequent.

SHARPE'S STEINBOK

RHAPHICEROS SHARPEI

THIS species, which was only discovered by Sir Alfred Sharpe in Angoniland, British Central Africa, in 1896, is considered by the eminent zoologist, Mr R. Lydekker, "to link the grysbok and steinbok so closely together that a generic separation between them seems uncalled for. Sharpe's steinbok has, in fact, the stippled coat of a grysbok, coupled with the absence of the lateral hoofs distinctive of the steinbok." Except, however, that lateral hoofs are wanting both in Sharpe's steinbok and the true steinbok, there is no affinity whatever in general appearance, habits and mode of life between those two little animals. On the other hand, although the true grysbok has small lateral hoofs, and Sharpe's steinbok is without them, these two species are indistinguishable one from another, unless submitted to a close inspection; their habits are identical in every particular, though differing entirely from those of the steinbok, and they both frequent exactly the same sort of ground, where, however, the steinbok is never found. I make these assertions on the assumption that the small, squat, dark-red, grizzled antelopes of which I saw so many amongst the rocky, bush-covered ground along the northern bank of the Central Zambesi in 1877 and 1878, were Sharpe's steinboks, and not grysboks, and that probably many of the precisely similar-looking little antelopes which I constantly saw in rocky, bush-covered ridges and hills in the northern districts of Southern Rhodesia between 1872 and 1892, and which I always thought were grysboks, were really Sharpe's steinboks. The only difference between the females of Sharpe's steinbok and the grysbok, which are both hornless, is that in the former lateral hoofs are entirely absent, whilst in the latter they are present, though very small. In the males, however, the horns are very different in the two species. In the grysbok they are always over three inches in length, and sometimes reach a length of five inches, and in general appearance are very similar to the horns of the steinbok; whilst in the male Sharpe's steinbok the horns are never anything more than little stumpy cones of an inch to an inch and a half or two inches in length.

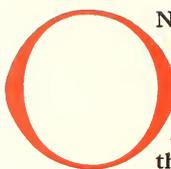
As Sharpe's steinbok is an inhabitant of British Central Africa and North-West and North-East Rhodesia, and has also been met with in the

SHARPE'S STEINBOK

North-East Transvaal, both by Mr C. Grant and Major J. Stevenson Hamilton, and as the grysbok seems to be unknown in the latter territory, it would seem probable that all the small, dark-red, grizzled antelopes inhabiting Southern Rhodesia must be Sharpe's steinboks, and not grysboks; and it has recently been stated that specimens obtained a short time ago near the town of Salisbury did, in fact, belong to the former species. However, I have the horns of what I thought at the time was a grysbok, and which I cut myself from the head of a small antelope which was killed in the Umvukwi hills, near Salisbury, in 1891, which certainly do not appear to belong to a Sharpe's steinbok, as they are between three and four inches in length. Unfortunately, at that time I did not know anything about the distinctions between Sharpe's steinbok and the grysbok, and took the animal in question to be an example of the latter species, and I cannot remember whether it had false hoofs or not. Further investigation will certainly be necessary before it can be definitely settled whether the small, dark-red, grizzled antelopes which are found all over the rocky, bush-covered hills and stony ridges of Southern Rhodesia are all Sharpe's steinboks, or whether some of them are not intermediate between that species and the grysbok, in that although they may be without false hoofs, their horns are identical with those of the grysbok.

THE KLIPSPRINGER

OREOTRAGUS SALTATOR

NE of the best-known and most widely distributed of all the smaller African antelopes, the klipspringer or rock jumper, is found in most, though by no means in all, suitable localities from the neighbourhood of Cape Agulhas in the south to the mountains of Abyssinia in the north, and from Somaliland in the east to Nigeria in the west. Wide breaks, however, occur in its range which cannot always be accounted for by the absence of hills. For instance, although the numerous ranges of rocky hills and all the isolated kopjes scattered over the country on both sides of the Northern Gwas N'yiro River, between Archer's Post and the Lorian Swamp, would appear to be eminently suited to its habits, the klipspringer is entirely absent from them.

In height, male klipspringers stand about twenty inches at the shoulder in South Africa, the females being somewhat smaller. Over the greater part of their range the males alone carry horns, which are usually from three to four inches in length; but in certain portions of British and German East Africa the majority of the females are also horned, the horns being somewhat sligher and shorter than those of the males.* The horns of the klipspringer stand straight up from the head, and are usually very sharp and ringed from the base upwards for half their length. The hoofs are rather long, but that portion of them on which the animal stands is so small and contracted that when all four feet are placed close together, as they often are on a small projection of rock, they would scarcely cover a penny piece. In colour klipspringers vary from a greeny grey to a greeny yellow. Each individual hair is stiff and spiny, and very lightly attached to the skin, so that immediately after death a klipspringer skin can be scraped or plucked clean of hair with the greatest ease. The lightness and elasticity of klipspringer hair—each hair being hollow and filled with air—makes it very suitable for stuffing cushions or saddles, and in South Africa there is a great demand for it for such purposes.

In addition to the typical klipspringer of South Africa, many geographical races, which only differ from it, or are supposed to differ

* Female Klipspringers, carrying horns, are occasionally found in South Africa. In 1904 a female of this small antelope, bearing horns, was shot in the Hex River Mountains, Cape Colony, by Mr W. Graham.

THE KLIPSPRINGER

from it, in the general colour of their coats, have been recently recognized by British and German naturalists, such as the Abyssinian klipspringer (*Oreotragus saltator saltatrixoides*), which has a wide range in North-East Africa; the Masai klipspringer (*O. s. schillingsi*), of British and German East Africa, in which the females usually carry horns; the Somali race (*O. s. somalicus*); the Nyassa klipspringer (*O. s. aceratos*), in which the forequarters are reddish or ochery yellow; and the recently discovered Nigerian race (*O. s. portensi*).

In whatever part of Africa they may be found, however, klipspringers are klipspringers not only in general appearance, but in their habits and mode of life. The rocky ground they frequent, and which, as the formation of their feet shows, is alone suitable to them, may lie at very varying altitudes. In the Cape Colony I have met with klipspringers on high mountain ranges, and in East Africa on isolated hills of small altitude. In the country now known as Southern Rhodesia, klipspringers used to be very plentiful throughout the granite formation, not only amongst continuous ranges of hills and in the innumerable rocky kopjes which stud the country, but also amongst the rocks and boulders through which many of the rivers run on their way to the Zambesi or the Limpopo. When disturbed in such situations, they will not take across country to the nearest hill, but run backwards and forwards amongst the rocks and boulders with which the channels of such rivers are encumbered. Run, however, is not the right word, as they jump from rock to rock. It is not usual for klipspringers to make great leaps; but if cornered, either by dogs or human hunters, they would probably not hesitate to do so. The formation of their hoofs enables them to get a foothold on the smallest projection from, or inequality in, the seemingly smooth surface of a perpendicular boulder, and they commonly make their way either up or down such rock surfaces by a series of little jumps. When frightened on a hillside, they always run upwards, frequently stopping to look back, and thus offering easy shots to their pursuers. If surprised on a very small isolated granite kopje, as they sometimes may be, they will leave it and make their way across the level ground to another hill. I was once snowed up for a week on one of the highest passes of the Sneeuwberg range in the Cape Colony, between Middelburg and Colesberg, and whilst hunting for rheboks during that time on this high mountain range I frequently saw klipspringers lying sunning themselves on the bare, open snowfields above the wooded kloofs. Klipspringers are not gregarious, but are usually

THE GUN AT HOME AND ABROAD

met with in pairs or three together—male, female, and the last season's fawn. Although four inches is above the average length for klipspringer horns in South Africa, and the record length is said to be only five and seven-eighths inches, I was once given a very abnormal pair by Mr Henry Boyne, a trader at Sechele's Station, in Bechuanaland, which measured eight inches. This pair of horns, obtained by a native in the district, was given me as a very remarkable pair of klipspringer horns, and I am quite sure that they were klipspringer horns; but as I had not myself shot the animal to which they had belonged, I regret to say that I did not accept them, and what became of them eventually I do not know.

THE ROYAL ANTELOPE

NEOTRAGUS PYGMÆUS

THIS little antelope, the smallest of all ruminants, only stands ten inches at the shoulder. In general colour it is bright reddish fawn, with the chin and underparts pure white. The horns, which are only present in the male, are less than an inch in length, perfectly smooth, and very sharp-pointed. The gland pits in the skull below the eyes are very large, and lateral hoofs are wanting.

This pigmy antelope is an inhabitant of the coastal regions of West Africa from Guinea to Fanti, and has been known to European naturalists for more than a hundred years; but the few skins and skulls of the species which have found their way to European museums would seem to have been obtained from the natives, and but little is known of its habits except that it lives in dense forest and jungle, and is very shy and retiring.

BATES' PIGMY ANTELOPE

NEOTRAGUS BATESI

This beautiful little antelope is an inhabitant of the Cameroons. Standing about sixteen inches at the shoulder, it is a good deal larger than the royal antelope, and darker in general colour.

Living as it does in dense bush, but little is known of its habits, but these are probably identical with those of its nearest allies, the royal antelope of the jungles of West Africa and the sunis of East Africa.

HARRISON'S PIGMY ANTELOPE

NEOTRAGUS HARRISONI

A skin and skull of this little antelope were brought from the Semliki forest in the Belgian Congo by Colonel J. J. Harrison in 1906. This species appears to differ very little from Bates' pigmy antelope, and further investigation will probably show that intermediate races connecting these two closely allied forms inhabit the forest regions which lie between the Cameroons and Uganda.

THE ZANZIBAR ANTELOPE

NEOTRAGUS MOSCHATUS

UNTIL within the last few years the range of this beautiful little antelope was supposed to be confined to some small islands in Zanzibar Harbour and the coast districts of the adjoining mainland, though not on the island of Zanzibar itself. It is, however, now known to occur on the island of Mombasa and in the thick bush on the adjacent coast as well as in many forest regions of the interior, amongst others in the Kilimanjaro district, in the forest of the Kikuyu escarpment near Nairobi, in British East Africa, and on the lower slopes of Mount Kenia.

The Zanzibar antelope stands from thirteen to fourteen inches at the shoulder, and is of a general reddish brown colour with white underparts. The tail is rather long, and the gland pits in the skull below the eyes are very large. The males alone carry horns, which sometimes attain a length of over three and a half inches, and are beautifully ringed from the base to within an inch of the tips. The ears in this species are very small and round, and, being entirely devoid of hair and very thin, they are translucent when the animal is alive.

I found these little antelopes very plentiful on the mainland of East Africa, opposite Mombasa Island. They live in the dense scrubby bush which grows all along the sea coast where it has not been cleared. They feed principally upon leaves and berries, but also eat grass, and are said to be independent of water. They could no doubt be easily shot in large numbers by organized driving, as the small bush antelopes are shot in Natal and the Cape Colony; but it is much more interesting to hunt for them single-handed, creeping noiselessly along the native paths which intersect the bush they frequent at early dawn and late in the evening. They are easily killed with small shot. They live singly or in pairs.

LIVINGSTONE'S ANTELOPE

NEOTRAGUS LIVINGSTONIANUS

THIS species is nearly allied to the Zanzibar antelope, but is somewhat larger and redder in colour. The ears, too, are larger than in that species, as well as the horns, which are not only thicker, but considerably longer, attaining a length of five inches. They are only present in the males, and are beautifully ringed from the base to near the tips, as in the Zanzibar antelope.

Wherever I have met with these little antelopes in the neighbourhood of the Lower Zambesi from Tete to Shupanga and in Amatongaland to the south of Delagoa Bay, I found them living in forest where there was a good deal of undergrowth, or in scrubby bush. They live alone or in pairs, and lie very close during the heat of the day, commencing to feed in the evening. They live principally on leaves and berries, but eat the tender shoots of young grass as well. Unless they are driven out of the bush by beaters and shot as they cross open glades in the forest, these little antelopes must be hunted in the early mornings and late evenings, when they may be met with moving about in the more open parts of the forest they frequent. Great caution is required to approach within shot of them, as their senses of scent and hearing are very acute.

THE DIK-DIKS

GENUS *MADOQUA*

THE various species and races of African antelopes collectively known as dik-diks constitute a well-defined group of the *Neotraginæ*, and are distinguished from all other members of that sub-family by the shape of the nose, which in some of the species is very much elongated, and in all is almost entirely covered with hair. In all the species of dik-diks, too, a brush of long hair grows on the forehead and is prolonged into a crest on the top of the head which often almost entirely hides the horns. In all the dik-diks the tail is very short and the lateral hoofs are very small. The males alone carry horns, which are straight or slightly curved, from two to three inches in length, and strongly ridged at the base. The nose bones of the skull are remarkably short, and the nasal chamber large. The gland pits in the skull are also large, but shallow. In some species of dik-diks the last tooth in the lower jaw has only two lobes in place of the normal three, and in these the nose is not elongated, or only to a very slight extent.

The dik-diks thus fall into two subgeneric groups: (1) *Madoqua*, in which there are two lobes to the last lower tooth and the nose is only slightly developed; and (2) *Rhynchotragus*, in which there are three lobes to the last lower tooth.

The dik-diks which come under this latter category all have the nose more or less elongated, and in some cases it is extended into a sort of trunk.

Five species of dik-diks in which there are only two lobes to the last lower tooth have been described by British and German naturalists, namely, Salt's dik-dik (*Madoqua saltiana*), from Eastern Abyssinia; Phillip's dik-dik (*Madoqua phillipsi*), from Northern Somaliland; the Harar dik-dik (*Madoqua hararensis*), from the Harar district of Southern Abyssinia; Erlanger's dik-dik (*Madoqua erlangeri*), which inhabits the country lying between the Upper Webbe Shebeyli and the Webbe Ganale; and Swayne's dik-dik (*Madoqua swaynei*), which is also an inhabitant of Somaliland, and is found all over Guban and Ogo as well as in parts of the Haud and Ogaden. Of the dik-diks in which there are three lobes to the last lower tooth, perhaps the best known are Kirk's dik-dik (*Madoqua* [*Rhynchotragus*] *kirki*) and Günther's dik-dik (*Madoqua* [*Rhynchotragus*]



Photo by]

GROUP OF EAST AFRICAN DIK DIKS.

(Hy. Dixon & Son.

Shot by Mr. F. C. Selous.

PLATE LVI.

THE DIK-DIKS

güntheri), the range of both of which extends from Somaliland into British East Africa. Several local races of both these species have been recognized by British and German naturalists, but they differ but slightly from the type species. In East Africa there occurs yet another species of dik-dik, which, though it resembles Kirk's dik-dik, is distinguished from it by its larger size and less elongated nose. This species has been named Cavendish's dik-dik (*Madoqua [Rhynchotragus] cavendishi*), after its discoverer, Mr H. S. H. Cavendish. All these species of dik-diks are inhabitants of Eastern Africa, their range extending from Abyssinia to German East Africa. There is, however, one West African species of dik-dik, namely, the Damara dik-dik (*Madoqua [Rhynchotragus] damarensis*), in which there are three lobes to the last lower tooth. This dik-dik, as its name implies, is an inhabitant of Damaraland, in South-West Africa, its range extending northwards into Southern Angola. In size, colour and general appearance it closely resembles Cavendish's dik-dik, from which species it is, however, probably specifically distinct, as a vast extent of country in which no dik-diks of any kind are present separates the ranges of the two forms.

I have personally met with Cavendish's, Kirk's and Günther's dik-diks, and various local races of the two last-named species in different parts of British East Africa, and in their habits I found them all very similar; indeed, along the Northern Gwas N'yi-ro River, between Archer's Post and the Lorian Swamp, I met with two distinct species of dik-diks living together in the same area. One of these has been named by Dr Drake-Brockman *Rhynchotragus güntheri wroughtoni*, and the other *Rhynchotragus cavendishi minor* by the Swedish naturalist, Dr Lönnberg.

Speaking generally, dik-diks live in thick, scrubby bush, but feed out into open grassy glades in the evenings and early mornings. They are, however, browsers rather than grazers, living principally if not entirely on the leaves and young twigs of various shrubs. They may sometimes be seen standing on their hind legs like goats or gerenuks, with their forefeet resting against the trunks or branches of trees in order to reach the food they covet. They are all most beautiful and dainty little creatures of various shades of grey and fawn, standing from fourteen to sixteen inches at the shoulder. In all the East African dik-diks the adult female is quite noticeably larger than the adult male. Dik-diks appear to me to be independent of water, as they are often met with in the most arid districts. Wherever they are plentiful, large heaps of their droppings will be found,

THE GUN AT HOME AND ABROAD

so that they must have the habit of returning day after day to the same spot to deposit their droppings. Although I never met with dik-diks in East Africa actually on hills, yet along the Gwas N'yiro they were always plentiful round the bases of hills where the ground was usually very stony, as well as on all low rocky bush-covered ridges. Cavendish's dik-diks, which I found plentiful in the neighbourhood of Lake Nakuru and Lake Elmenteita, I used only to see in the early mornings and late evenings when they were feeding and moving about outside the patches of bush within which they lay hidden during the heat of the day. But along the Gwas N'yiro the dik-diks were visible at all times of day. In the mornings and evenings they were feeding about, and in the middle of the day they were often to be seen standing in the shade of scrubby thorn bushes. The intense heat of the sun in that part of the country seemed to make them disinclined to move in the middle of the day, and I have ridden past numbers of them which stood looking at me without moving at a distance of less than fifty yards—sometimes, indeed, within twenty yards. In the mornings and evenings they were less confiding as a rule. Dik-diks may be met with singly, but more often they live in pairs or three together—male, female and last year's fawn.

Although certain species of dik-diks, such as Cavendish's dik-dik in British East Africa and Salt's dik-dik in Abyssinia, are found at an altitude of between five and six thousand feet, they appear to be most abundant at lower altitudes where the climate is very hot. Along the Northern Gwas N'yiro River, where the heat is intense and the country very parched and dry, they simply swarm, and very large bags of them might be made by first posting several guns and then driving the bush towards them with native beaters. But in a country still full of rhinoceroses, giraffes and various species of large antelopes such small fry as dik-diks are either entirely disregarded or only shot in small numbers for food or specimens. They afford good practice with a rook rifle, but can be killed quite easily with a shot-gun.



BEIRA ANTELOPE, from Somaliland.

Shot by Sir Edmund G. Loder, Bt.

PLATE LVII.

THE BEIRA ANTELOPE

DORCOTRAGUS MEGALOTIS

THIS beautiful little antelope, which is an inhabitant of the parched, scrub-covered hills of Somaliland, has no very near affinities to any other species, and has therefore been placed in a genus by itself. In general appearance it somewhat resembles a steinbok, but some naturalists look upon it as an aberrant member of the gazelle group, whilst others, again, consider that it is related to the dik-diks.

In size the Beira antelope stands a little under two feet at the shoulder, and the males alone carry horns, which much resemble those of the klipspringer, standing straight up from the head and being ringed at the base. They attain a length of from three to five inches. In colour these little animals are bluish grey above and white beneath, and so closely do they match the colour of the rocks and stones and the dry scrub amongst which they live that they are very difficult to see when standing or lying at rest. The ears of the Beira are larger in proportion to the size of the animal than in any other species of African antelope. The hoofs, too, are peculiar, being broad and rounded, which enables them to get a firm grip on the rocks amongst which they live, for in this respect they resemble klipspringers. As the range of the Beira antelope is confined to certain very restricted areas, it has not been met with by many sportsmen. Nor is it an easy animal to shoot even when its habitat has been reached, as its pursuit must be undertaken in a scorching climate and in a parched-up, waterless country, whilst its shy and wary disposition renders it difficult of approach, and even when within shot it presents but a small target. Like the dik-diks and many others of the small African antelopes, the Beira seems to be entirely independent of water, whilst its food consists of the leaves of various shrubs and bushes, as well as young grass, when freshly sprouting after a shower of rain.

THE LION

FELIS LEO

ALTHOUGH, with the spread of civilization, and all that that word implies, the range of the lion in Africa is gradually becoming more and more restricted, no very long period of time has elapsed since this magnificent animal was an inhabitant of every portion of that vast continent, suited to its habits, from Cape Agulhas to the shores of the Mediterranean Sea.

There is an entry in the diary of van Riebeeck, the first Dutch Governor of the Cape Colony, which might have been repeated by several of the Governors of British East Africa when residing at Nairobi only a few years ago. The entry referred to reads: "This night the lions roared as if they would take the fort by storm." Just two hundred and sixty years have passed since van Riebeeck wrote those words on the site of the present city of Cape Town, but one must travel many hundreds of miles from that busy centre of civilization before there is any possibility of hearing a wild lion roaring to-day. Lions still sometimes roar at nights in the near vicinity of Nairobi, but two centuries hence, when that fast-rising township has in its turn grown into a great city, one wonders if there will still be any wild country, any wild game, or any wild lions left in any part of Africa.

That, however, is a question for the future to determine, and at the present day lions may be met with in almost every part of Africa where game is still sufficiently plentiful to afford them a living. Where there is much game there will be many lions, and even where game is very scarce and scattered it is never safe to assume that lions are altogether absent. When travelling with horses, donkeys or cattle in almost any part of the interior of Africa, it is, indeed, always well to remember the possibility of lions being about, and to take every precaution for the safety of one's live-stock at nights; for where game is scarce, lions are often very hungry, and, therefore, ready to attack any animal, tame or wild, which may come in their way, and the boldness and determination of a really hungry lion under cover of darkness is almost beyond belief.

Both lions and lionesses may sometimes be met with living alone, but more often these great carnivora live in families. Some lions are

LION

PLATE LVIII.



THE LION

monogamous, whilst others habitually live with two, three, or even four females. Sometimes two, or even three, full-grown male lions live and hunt together. When a lion lives with two or more lionesses, these will often be accompanied by cubs of different ages. These cubs, I incline to believe—and there is good evidence in support of the view—remain with their parents until they are over two, possibly quite three, years old. The young females then stand as high at the shoulders as their mothers, though still much more slightly built, and the young males already show incipient manes. After a time the young males are no doubt driven off by their fathers, whilst some of the females are captured by other lions, or possibly driven off to fend for themselves by their mothers. In countries where game is excessively numerous more than twenty lions will sometimes collect together. Mr F. J. Jackson, C.B.,* has recorded the fact that on August 7, 1890, he and Dr Mackinnon saw a troop of no less than twenty-three lions near Machakos, in British East Africa. This great gathering of lions, Mr Jackson tells us, consisted of three males with large dark manes, five or six lionesses and the rest immature animals and cubs. I cannot help thinking that so large a party of lions, in which there were three full-grown males, must have been made up of three separate families, which usually hunted apart, but which for some reason or other had fraternized temporarily; for surely the passions of love and jealousy would have prevented a continuous friendship amongst the males of the party in the presence of the females.

In a wild state a lioness usually gives birth to three cubs, though sometimes as many as four are born, and sometimes only two. Many of these cubs—possibly the majority—die when still quite young—probably in teething. This mortality amongst young lions no doubt acts as a check on the inordinate increase of the species, which is further kept within bounds by the fact that lionesses in a wild state only appear to breed at considerable intervals. At any rate, although lion cubs live with their mothers until they are at least two years old, I have never heard of a wild lioness having been met with accompanied by small cubs as well as half-grown ones. This is very remarkable in view of the fact that in a menagerie in England a lioness has been known to give birth to two litters of cubs in one year.

Although lions sometimes hunt and kill their prey in the daytime, they are as a rule very nocturnal in their habits, resting and sleeping by day,

*Now Sir Frederick J. Jackson, K.C.B.

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and hunting during the hours of darkness. They are fond of taking up their position during the day on rocky, bush-covered hills, from which a good view over the surrounding country may be obtained. Where such hills overlook open plains well stocked with game, lions doubtless often observe by day the herd of zebras, hartebeests, or other animals which they intend to attack as soon as darkness sets in; but they always approach their prey against the wind, and at night hunt necessarily chiefly by scent. It has often been observed that antelopes and zebras pay little attention to lions when they see them in the daytime as long as they do not scent them. On the very instant, however, that they get wind of such dangerous neighbours they dash off in wild alarm. When several lions are hunting together, one or more of the party will sometimes take up a position down wind of a herd of game, whilst the others deliberately go round to windward and give the animals their scent, which at once leads to a panic-stricken rush in the direction of the concealed lions, one or other of which will then probably be able to secure a victim.

I have myself known a lion to kill a young elephant; and there is some evidence as to a party of lions occasionally attacking good-sized elephant cows; but such incidents are probably excessively rare, and, speaking generally, elephants, rhinoceroses and hippopotami may be said to be immune from the attacks of these formidable carnivora. But nothing else, from a buffalo to a tortoise, is safe from their attentions. Forty years ago, when buffaloes were enormously plentiful throughout all the wooded regions of South Africa, between the Limpopo and the Zambesi, very large numbers of these powerful animals were annually killed by lions. In some parts of the country, indeed, buffaloes certainly formed the chief food of the lions living in the same districts. Giraffes are also sometimes killed by lions, but not very often, I think, probably because they must not only be awkward animals to pull down, but also because, as a rule, they live in very dry, waterless tracts of country into which lions do not often penetrate. Zebras have always formed a favourite food of the lion. In the first half of the nineteenth century quaggas were very numerous on all the open plains, and karroos of the Cape Colony and the Orange Free State, and in the latter territory, as well as in the Western Transvaal and Bechuanaland, Burchell's zebras were also very plentiful; and in all these territories these two species of zebra undoubtedly formed the principal food of the lions living in the same countries, which were so numerous that the pioneer missionary, Robert Moffat, has recorded the

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fact that he once saw, on the borders of Bechuanaland and the Western Transvaal, nine troops or families of lions in one day. To-day, on the open grass downs of British and German East Africa, Grant's zebras (*Equus burchelli granti*) are excessively plentiful, and they undoubtedly form the favourite food of the lions frequenting these territories. But all the larger antelopes, such as hartebeests, wildebeests, elands, koodoos, waterbucks, oryxes, and sable and roan antelopes, are also constantly preyed upon by lions, as well as warthogs, and any smaller animals they are able to catch; and when hard pushed for food these carnivora will even kill porcupines and crunch up tortoises. A case, too, of two lions surprising and killing a monkey as it came to drink came under my own notice. Wild ostriches are sometimes surprised at night and killed by lions; but, although a few instances of the kind have come under my own observation, I had always thought them of rare occurrence. The determined attacks, however, made by two parties of lions in 1911 on two ostrich camps situated on the Kapiti Plain, just north of the Uganda Railway, in British East Africa, would seem to show that these birds have a strong attraction for lions, and it is possible that many more of them in a wild state are killed by these animals than has been generally supposed. The full account of what occurred on one of these two ostrich farms was given to me a short time ago by Mr R. Woosnam, the present chief game ranger in British East Africa, and, to the best of my remembrance, what happened was as follows: All round the enclosure in which the ostriches were confined at nights strong wooden posts had been driven deep into the ground at intervals of four feet, the intervening spaces being filled in with barbed-wire entanglements of the strongest and most intricate description. Upwards of seven miles of barbed wire are said to have been employed in the construction of this fence, which was ten feet high, and enclosed an area of forty yards square. This strong fence of posts and barbed wire was itself surrounded by a thick thorn fence. The native boys who herded the ostriches (fifty-one in number) in the daytime occupied huts placed at the corners of the enclosure. Early one night six lions came up to the fence, and, of course, were able to see the ostriches through the interstices of the barbed wire, against which they seem repeatedly to have thrown themselves without being able to break through. The barbed wire was sunk deep in the ground between the posts, but at last one or more of the lions managed with teeth and paws to tear some of it loose, and so to form a very small opening, through which, however, they crept one after another into the enclosure.

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They then killed every single one of the fifty-one ostriches, the meat of the greater part of which they left untouched. Before daylight five of the lions made their way out of the enclosure at the place where they had broken into it. But the sixth, a large male, was still inside feeding on one of the ostriches, when the owners of the flock, who had been apprised of what had taken place by some of the native boys, as soon as it was light, appeared upon the scene. The gorged animal was then so flurried that it could not immediately find the place through which it had broken into the enclosure, and was killed in the midst of the slain ostriches. The remaining five lions returned again that night for another feast of ostrich meat, and two more of them were shot by the owners of what had so lately been a promising ostrich farm. The remaining three lions were also subsequently killed by a party of sportsmen shooting in the neighbourhood. About the same time thirty ostriches were killed in one night on an adjoining farm. I did not hear the particulars of this case, but a party of lions again broke into a very strongly fenced enclosure in which there were thirty ostriches, every one of which was killed.

The fact that the lions which attacked these ostriches in both instances made their way in along the ground by pulling up the barbed wire is very characteristic of these animals, which, in my own experience, always prefer to force their way under a fence, even if it is made of thick thorn bush and is quite low, rather than spring over it. If, however, after having entered an enclosure in this way, and perhaps killed an ox or a horse inside, they should be suddenly fired at or otherwise disturbed, they will then readily leap over the fence in their hurry to escape. Although the weight of a full-grown lion is not much greater than that of two heavy men, the muscular strength that a lion can exert is probably equal to that of several men combined. A single lion will break the neck of the largest ox or of a buffalo cow with the greatest ease. This is done by seizing the animal by the nose with the claws of one front paw, and either breaking its neck with one mighty wrench or causing it to break its own neck by falling forwards with its head pulled in under its chest. Whether a single lion can kill a full-grown buffalo bull in this way I do not know. I have on several occasions come on the carcasses of buffalo bulls freshly killed by lions, and have also shot many buffalo bulls which had escaped from lions after having been badly mauled by them, but in all these cases several lions might have combined in the attack. When a single lion kills an ox or other animal he does so very quickly and cleanly by breaking its neck,

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but when several lions attack an animal together, they bite it all over, and sometimes take a long time in killing it. I think that lions, as a rule, when attacking horned animals, try and seize them by the nose with one paw in order to prevent them from using their horns, for if they did not do so, they would often suffer severely when attacking such animals as sable and roan antelopes or any of the oryxes. Horses, donkeys, and zebras are almost always killed by a bite on the back of the neck just behind the ears, and a young elephant, from whose carcass I drove a lion immediately after it had been killed, had been bitten in the throat. According to my observations in South Africa, lions, after having killed an animal, were accustomed to first tear open the carcass at the flank and eat the skin and thin layer of flesh covering the entrails and paunch, which they then pulled out very neatly and cleanly, and, having dragged them away to some distance, covered with earth and grass, which they scratched up and threw over them. Then they ate the kidneys, liver, heart and lungs and whatever inside fat there might be. After this, they again tore the carcass open at the anus, and ate all the soft meat of the buttocks. Lions tear off and swallow whole great lumps of meat with the skin attached. They never crunch up big bones, but when an animal they have killed is fat, they will chew and swallow the soft bones of the brisket and the ends of all the ribs.

Being essentially game-killers, and therefore generally avoiding those parts of the country which have been settled in by either white men or natives, man-eating lions are fortunately not as common in Africa as are man-eating tigers in India. Still, man-eating lions have occasionally made their presence very disagreeably felt in almost every part of Africa, and will doubtless continue to do so as long as the species exists. The case of the man-eaters of Tsavo, which were responsible for the deaths of twenty-eight Indian coolies working on the Uganda Railway, is known to every one; but even more destructive animals have existed whose history has never been chronicled. In 1886 a single lion is said to have killed and eaten thirty-seven natives in the neighbourhood of the Majili River, a tributary of the Central Zambesi, and very many other man-eaters have killed quite a number of human beings before their careers were ended. In fact, a certain proportion of lions—fortunately not a very large one—always has been, and always will be, man-eaters in Africa.

In discussing the subject of man-eating lions, Dr Livingstone wrote, many years ago: "A man-eater is invariably an old lion, and when he

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overcomes his fear of man so far as to come to villages for goats, the people remark, 'His teeth are worn; he will soon kill men.' They at once acknowledge the necessity of instant action, and turn out to kill him.' Had Dr Livingstone said that a man-eating lion was *usually* an old, worn-out animal, no one could have questioned the accuracy of his views; for, although exceptions to this rule undoubtedly occur, it is certainly the gradual decay of their physical powers which generally drives lions to so far overcome their fear and dislike of human beings as to habitually kill them for food. In a country where game is very abundant and lions plentiful, a lion or lioness which, through old age and the gradual loss of strength and activity, is no longer able to catch and pull down the large and powerful antelopes, zebras and buffaloes upon which, in the days of its prime it was accustomed to prey, will yet probably be able to eke out a living for some time by feeding on the remains of the numerous carcasses of animals killed by younger and stronger lions, until at last it becomes so weak and worn-out that it is attacked and killed by hyænas. This, at least, is my reading of the fact that the natives whose small and widely scattered villages I visited in the neighbourhood of the Lower Pungwe River in 1891 and 1892, invariably told me that the lions never troubled them, although there were a great many of these animals about; but their food supply was unfailing, as game of many kinds, buffaloes, zebras, and antelopes, were very abundant in the same district. A few years later, however, when the railway was being built from Beira to Salisbury, and the game had been driven from the neighbourhood of the line, the lions became very troublesome, and over thirty work-boys are said to have been carried off from the construction camps before the railway was completed to Chimoio's.

Where game is not plentiful lions undoubtedly lead a very strenuous life, and often go hungry even when in the prime of their strength. But as their powers fail they must often grow desperate, and it is then that they turn to native villages or other haunts of men in search of food. An old and hungry lion or lioness will first, perhaps, kill a goat, or one of the little boys herding the goats, or surprise a woman going to fetch water. A hearty meal gives it fresh strength to commit further depredations; and the knowledge that a human being is not only good to eat, but also easy to catch and kill, confirms the newly acquired habit; so that when an old lion once commences to kill and eat human beings, it probably remains a man-eater for the rest of its life, whereas a younger animal in the

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full possession of its strength and activity might conceivably yield to temptation should it get the chance of killing a man when it was suffering from hunger, and then resume its normal life as a game-killer. The Tsavo man-eaters are said not to have been very old, but they were certainly past their prime. Living as they did in a country where game was very scarce, and having probably been driven by sheer hunger to kill and eat their first man, the temptation offered to their appetites by the crowds of coolies and natives collected together in the construction camps on the Uganda Railway was too much for them, and caused them to take entirely to a diet of human flesh. They were finally killed by Colonel Patterson, but not before they had destroyed twenty-eight Indian coolies.

The lion which entered a carriage on the Uganda Railway and killed and ate Mr Ryall, and which was subsequently caught alive in a box-trap by Mr Costello, was certainly a very old animal, with teeth and claws very much worn and broken.

Very few lions have been actually weighed immediately after death, so that the maximum size and weight to which these animals may sometimes attain is still an unknown quantity. Mr Roosevelt gives the weight—carefully taken with an accurate weighing-machine—of the largest lion shot during his expedition through British East Africa in 1910 as 410 lb. This lion, he tells us, “was a big old male, still in his prime. Between uprights his length was 9 ft. 4 in., and his weight 410 lb., for he was not fat.” Curiously enough, a big old male lion which I shot myself at Hartley Hills, in Mashonaland, in 1891, and weighed immediately after death on a steel-yard scale, also scaled 410 lb. This lion was an old animal, and must undoubtedly have weighed a good deal more when he was younger and in better condition. I think, therefore, that full-grown lions when very fat may often attain a weight of 450 lb., or even 500 lb., and a length sometimes from nose to tip of tail between uprights of possibly ten feet.*

Lion-hunting must be one of the oldest sports in the world, for doubtless when the ancient cave lions of Europe—of which the African lion is the lineal descendant—took to man-eating, our own palæolithic ancestors had in self-defence to combine and attack them with their flint-headed arrows and spears.

*Since these lines were written, Mr R. B. Woosnam, the Chief Game Warden in British East Africa, has recorded the carefully taken weight of “a fine average male lion in good condition,” shot by Mr R. J. Stordy, the Chief Veterinary Officer of the East Africa Protectorate, as exactly 420 lb.

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In later days lion-hunting was the sport of Assyrian kings, who chased them in small, light carts drawn by two horses, and shot them with bows and arrows. From time immemorial, too, there has been constant war between the natives of Africa and the lion. The bushmen of South Africa killed many lions with poisoned arrows. Their method was to track one of these animals to where they found him lying asleep, and then to fire one of their tiny arrows into him. The lion, so they told me, would jump up on feeling the prick of the arrow, and then walk away, not realizing what had happened. The poison probably soon told on the wounded animal, but, according to my informants, the lion did not usually die until the third day. To-day the Wandorobo, of British East Africa, still often kill lions with poisoned arrows, whilst they themselves sometimes fall victims to hungry lions in search of food. Some of the Arab tribesmen of the Eastern Sudan are said to hunt lions on horseback and kill them with swords, and cases of the kind may have happened, but I find it difficult to believe in their frequent occurrence. All the cattle-keeping tribes of Africa are, however, accustomed to attack and kill with spears any lion or lions which interfere with their herds. The offending lion is tracked to its lair and quickly surrounded by a number of avenging warriors. Amongst the Matabele of South Africa, before the general introduction of firearms, after the lion had been ringed and was standing at bay, a picked man would advance upon it, shaking his great ox-hide shield, and abusing it in unmeasured terms. The lion then, seeing itself surrounded, would rush upon him, when the warrior would kneel behind his shield and endeavour to stab his assailant as he was borne to the ground in the onslaught. At the same moment his companions would rush in on the lion from all sides and quickly spear it to death, though very often not before some among them had been killed or severely bitten. In these encounters in Matabeleland throwing-spears were never used. The lion was always stabbed to death. At the present day lions are frequently killed with spears in British East Africa by the brave warriors of the Masai and Nandi tribes in much the same way as was once practised by the Zulus and the Matabele of South Africa. Indeed, the only difference is that whilst only stabbing spears were used by the last-named tribes, the Masai and Nandi use heavy throwing-spears.

The superiority of modern cordite rifles over the best weapons procurable a generation ago has no doubt given the modern sportsman a great advantage over his predecessors in encounters with all kinds of



LION FROM BRITISH EAST AFRICA

Shot by Mr A. E. Butter.

Photo by Lafayette.

PLATE LIX.



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dangerous game, but even so, a considerable number of Englishmen have been either killed or injured by lions during the last few years; and although it is possible to kill lions in various ways with very small risk of accident, yet the man who attacks these animals single-handed and follows them into thick cover will be sure sooner or later to realize that lion-hunting may be a very dangerous pastime. Like men, lions differ individually very much in temper and disposition. Some lions may be very unaggressive, and may appear to be very cowardly, but others are undoubtedly very savage, and it is not well to treat any lion too contemptuously. Speaking generally—although there are exceptions to the rule—lions, when encountered in the daytime, retreat before the presence of human beings, even when found feeding on the carcass of an animal they have just killed; nor, if fired at when retreating, are they likely to turn and charge immediately on being hit. They will run off into cover. To follow a wounded lion into bush or long grass may, however, be a very dangerous undertaking, as the wounded animal will probably very soon face round on its tracks and lie down and wait for its pursuers. So close will it lie to the ground that the smallest bush or a quite insignificant tuft of grass will completely conceal it, and when it charges, it will come on at a terrific pace, not in great bounds, but close along the ground, just like a great dog galloping.

Should lions be encountered in the midst of a bare, open plain, far from cover, by a well-mounted man, they may usually be killed without much difficulty. When, having been caught in such a situation, lions first see a horseman approaching in the distance, they will walk away from him, and then, as he gallops towards them, break into a gallop themselves, soon, however, relaxing to a trot, and perhaps when he is some two hundred yards away, they will turn and face him growling and whisking their tails from side to side, or else lie down and watch him with their heads on their outstretched paws. Once they have come to a stop, the horseman may ride round them and then edge away to a distance of three hundred yards. They will still remain lying watching, and as they will not charge from such a long distance, they can easily be shot with a modern long-range rifle without the slightest danger. This is the method of shooting lions which has often been successfully employed by the experienced settlers on the Kapiti plains in British East Africa. But should an inexperienced or impetuous man still gallop on after a lion has turned to bay on an open plain, let him remember that it will almost certainly

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charge sooner or later, probably when he has approached to within about a hundred yards of it. It is therefore most dangerous to gallop up to within a hundred yards of a lion that has been ridden after and has turned at bay on an open plain, and then to pull in and dismount for a shot; for very likely, when one is in the very act of dismounting, the lion will charge, and may be on its pursuer almost before he is on the ground, or, at any rate, it will give him no time to pull himself together for a shot on which his life will depend. If a little sport is wanted with a lion on an open plain, ride up to him and let him charge, and then gallop away. At first he will gain on the horse, as the sound of the terrific coughing grunts he makes as he comes on, getting nearer and nearer, will make plain to the rider; but a lion cannot keep up the tremendous speed with which he starts a charge for any great distance, and a fairly fast horse soon begins to draw away from him. Directly the lion stops after such a charge, bring your horse round as quickly as possible and jump off and take your shot, as the lion stands growling, but do not waste any time, as he will come on again as soon as he gets his wind. This is a much more sporting way of hunting lions on horseback on an open plain than killing them at long range with small-bore rifles, and thirty years ago it was the only way open to one. A method of shooting lions which is often practised and is often very effective, is to sit up in an ambush at night over the carcass of an animal which has been killed for a bait. There is, of course, no danger attached to this method of killing lions unless a wounded animal has to be followed into thick bush or long grass the next morning. But the shelter from which the shots are fired must be made strong enough to keep out lions, or they may try and penetrate it. I have myself had such an experience, one of a party of five lions, two of which I had already shot, having attempted to break into my rather flimsy shelter.

But it remained for a citizen of the United States to conceive and carry out a plan for destroying lions on a scale never dreamt of, probably, either by the sporting kings of ancient Assyria, or modern British big-game hunters. In 1911 Mr Paul Rainey, a wealthy American, brought out to British East Africa several packs of dogs, some fifty or sixty in number, I believe, trained to hunt bears in the Western States. Some of these dogs were trackers which had been trained in America to disregard the spoor of any animals but bears. Arrived at Nairobi, they were trained to lions, at first, I believe, with the aid of a young captive lion which was led about round the town, and which the hounds soon learned to track unerringly.

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No lion whose spoor was crossed by these trained dogs could escape. It was followed with absolute certainty to where it had elected to spend the day in retirement, and as soon as it was found, the rest of the pack rushed in and bayed it. Even if a whole troop of lions and lionesses and young ones was followed, there were enough dogs to bay all of them, and as they charged out of cover surrounded by the barking dogs, they offered easy shots to the mounted hunters. Between seventy and eighty lions were killed in a few months by Mr Paul Rainey with the help of his dogs, and I believe that neither he nor any of his companions were ever charged by any one of these lions, their attention being so completely distracted by the yelping pack around them. Now, there can be no doubt that by killing man-eaters and lions which had taken to killing cattle and ostriches, Mr Paul Rainey has earned the gratitude of many of the settlers in East Africa, who not unnaturally look upon lions as vermin; but as the hope of bagging a lion is one of the chief inducements of British sportsmen to visit that country, it is to be hoped that Mr Paul Rainey—who is again about to visit East Africa, and whose dogs are still at Nairobi—will not be permitted to exterminate the lions in districts in which as yet there is no settlement.

The two points of view as regards the wholesale killing of lions with the help of large packs of trained dogs is well exemplified in a letter which recently appeared in the "East African Standard." A gentleman who signed himself "A Sportsman" first wrote as follows: "I note you inform the public that Mr Paul Rainey is due to arrive at Nairobi shortly—I suppose to 'bag' a few more lions. Now, I should very much like to express my views on the methods this gentleman uses in 'bagging' his lions. He goes out with a pack of dogs and gets on to the fresh scent, and after a short run the lion turns to bay, with a pack of dogs around him, and does not take the slightest notice of the sportsman, who rides up to within a few yards, and, with a steady shot, knocks his lion over dead. I believe Mr Paul Rainey himself has shot close on eighty lions and has only lost one dog, which shows us what danger there is in this so-called sport, and without a certain amount of danger to the hunter, big-game hunting is no longer sport, but slaughter. On the other hand, lions are vermin, and kill a certain amount of the settler's stock; but this is nothing in comparison to the amount of money brought into this country by the big-game hunters, and, in my opinion, without the big-game hunters, this country could not, and will not, advance as it has in the past.

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Why not put a limit on the number of lions a sportsman may kill in the unsettled districts ?”

To this expression of a sportsman's opinion the editor of the “ East African Standard ” appended the following note: “ We do not agree with the views of ‘ Sportsman. ’ We regard Mr Rainey and his pack of lion-hunting dogs as benefactors. Lions are a curse in any struggling country. In the old days the ordinary big-game sportsman was very welcome; to-day he is a nuisance. He only upsets the labour market, without giving an adequate return. ” There are two ways of looking at most things, and I think these two very divergent views of the sportsman and the settler regarding the wholesale killing of lions with the help of large packs of dogs distinctly interesting and worth recording.

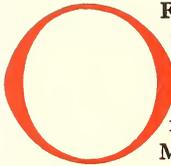
A sportsman proceeding to Africa to hunt big game to-day, as a rule, takes with him a long-range, small-bore magazine rifle and a powerful double cordite rifle of ‘ 450 or ‘ 500 bore. With his small-bore rifle he shoots every day and becomes thoroughly accustomed to it; but as the law only allows him to shoot two elephants, two buffaloes, and one rhinoceros in British East Africa, he will only use his heavy double rifle very occasionally, and perhaps will never have fired a shot with it at all when he first meets with lions. Now, a lion is a soft-skinned animal, and if hit in a vital spot, can easily be killed with any of the many very excellent small-bore, high-velocity rifles procurable at the present day. Therefore, I think that, should lions be suddenly encountered, it is advisable to take the first shot with the small-bore rifle one has been using every day, and to which one is well accustomed, rather than to exchange it for the heavy double with which one has hardly fired a shot. It is certainly better to hit a lion somewhere about the right place with a bullet from a small-bore rifle than to hit him too high or too low, or too far back with a heavier projectile. Once, however, a lion has been wounded, and has to be followed into thick cover, then a heavy double rifle has great advantages over a small-bore magazine rifle. But it must be remembered that to stop a charging lion you must hit him fair, either in the front of the head or in the mouth, or in the centre of the chest. Many men have been badly mauled or killed by lions, although when they were charged they held in their hands very heavy rifles, and actually hit the lions as they came on; but they did not hit them fair, but perhaps through the side of the face or mouth, possibly breaking one side of the lower jaw, or in the body to one side or other of the chest. Such shots, even from the heaviest rifle, will

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not stop a charging lion, though I feel sure that a properly placed bullet from a smaller bore would. After the first barrel of a double rifle has been fired at a charging lion without stopping it, the second should be held till it is quite close up. New rifles are being put on the market every day, and they are probably all good if the right bullet is used with them. When shooting in East Africa a few months ago, I used a '275 magnum by Holland and Holland, and I was supplied with cartridges loaded with bullets of two kinds, solid nickel-coated, sharp pointed, and another kind of the same size, weight and shape, but copper-pointed. The copper-pointed bullets I found most unreliable at short ranges, as they burst into a number of small pieces on striking even a small animal, thus inflicting an enormous surface wound without penetrating to the vitals. It would be dangerous, I think, to use such copper-pointed bullets on a lion. On the other hand, I found the solid nickel-coated pointed bullets most satisfactory. I believe they must turn and rotate on striking an animal. At any rate, in my experience, they do not merely drill a small hole, but inflict extraordinary internal injury, and tear a large hole at the point of exit through the skin on the further side. In spite of their small size, I believe that such solid nickel-coated bullets would prove as effective against lions as they certainly are against the larger African antelopes.

THE LEOPARD

FELIS PARDUS



F all African animals the leopard is probably the most ubiquitous, as it is an inhabitant of almost every description of country to be found in that vast continent. It still lurks in the mountains of the Cape Peninsula, and ranges from thence northwards almost to the very shores of the Mediterranean Sea.

All climates within this area would appear to be equally congenial to leopards, since these animals are as numerous in the hot coast lands of the equatorial belt as they are on the high plateaux and mountain ranges of the interior of the continent. Indeed, given water, an adequate food supply, and good cover, leopards can accommodate themselves to almost any kind of surroundings; equatorial forests, thick scrubby bush, rocky hills, high mountain ranges or beds of reeds. They naturally shun open plains devoid of cover, as well as districts where no water is obtainable, but during the rainy season leopards often extend their range into parts of the country from which they have been excluded through want of water during the periods of drought. Enjoying so wide a distribution, and being subject to such varying conditions of climate and environment, it is not surprising that African leopards should vary very considerably one from another in different parts of their range.

The leopards of Africa have been separated by modern naturalists into a number of local races, distinguished from one another by their size and the size and pattern of their spots; but, as in every part of Africa in which they are found, individual leopards differ greatly in size, as well as in the ground colour of their skins and the size and form of their spots, and as the two extremes in any one locality are always connected by intermediate forms, it will, I think, be as well for the purposes of this article, to consider all African leopards as belonging to one highly variable species. Except in Abyssinia, where numerous cases have occurred, black leopards are seldom met with in Africa; but two perfect examples of this melanistic variety have been killed quite lately on the farm of Mr H. H. Heatley, near Nairobi, in British East Africa. In their habits and mode of life, at any rate, all the African leopards would appear to be identical.

Though everywhere plentiful in the wilder regions of Africa, leopards

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are seldom seen by daylight unless systematically hunted with dogs, as they are very nocturnal in their habits, and take shelter during the daytime in thick bush, or forest, or in beds of reeds. Once as I was passing through some forest on the bank of a river near the Zambesi, a leopard jumped to the ground from a big tree just in front of me. It had been lying stretched along a large horizontal branch, perhaps on the look out for an impala or a bushbuck. On another occasion, hearing a lot of baboons barking a little ahead of me, I went to see what was the matter, and presently saw a large number of these grotesque animals seated or standing on their hands and feet amongst the upper branches of a large tree, all of them barking and chattering, and evidently in an intense state of excitement. Thinking there might be a lion or a python hidden by the grass growing beneath the tree, I advanced cautiously towards it, and was within thirty yards of it, when a leopard sprang to the ground and disappeared like a flash. The baboons, which had probably seen me before the leopard did so, at once followed suit and ran off. I could not find any sign of a baboon having been killed, and imagined that the leopard had chased them into the tree, but had then been deterred from trying to seize one of their number amongst the upper branches by the menacing attitude of the whole troop. It is possible, however, that these baboons were about to attack the leopard, as I have heard on very good authority that in the western district of the Bahr-el-Ghazal Province leopards are not uncommonly mobbed and killed by the dog-faced baboons of that district. Where their habitat is amongst rocky hills, leopards may sometimes be seen sunning themselves in the early morning or lying in the shade of overhanging rocks during the heat of the day. On a rainy day in East Africa I once saw a leopard climb the slanting trunk of a large thorn tree in order to obtain a good view of some Uganda kobs, which, although it had no doubt already scented them, must have been previously hidden from it by the long grass. Speaking generally, however, leopards are not often seen in broad daylight by sportsmen and travellers in Africa, though their tracks may be numerous on game trails and native footpaths. The chief prey of leopards are, no doubt, the small and medium-sized antelopes, such as dik-diks, duikers, klipspringers, impalas and reedbucks, but they also kill a great many monkeys and baboons, as well as rock rabbits, and even smaller animals, and such birds as bustards, guinea-fowls and francolins. I remember a leopard taking fowls night after night from the trees and bushes in which they were roosting, outside the cottage of a

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Boer family who were then living at Tati, in Western Matabeleland. The career of this animal, an old female, was cut short by means of a spring gun. It was also at this same place, Tati, that a leopard, early one evening about forty years ago, sprang suddenly through the open window of a house into a room in which a friend of mine was sitting with some members of a Boer family. It sprang at a cat which was sitting on the window-sill, but missed it and landed on the floor of the room, close to my friend and his companions. Then, becoming frightened, it rushed beneath a curtain into an adjoining room and took refuge under a bed on which two Boer children were sleeping. Here, after a light had been brought, it was shot as it lay crouched in the corner of the room beneath the bed. A somewhat similar incident occurred at Nairobi a few years ago. Should a leopard break into a goat or sheep kraal, it will often wantonly kill several of the flock. A case of this kind occurred quite recently on the Laikipia Plateau, in British East Africa. A leopard broke into a kraal surrounded by a thorn fence ten feet in height and killed fifty-six valuable merino sheep which had recently been imported from the Cape Colony at great expense to their owners. Sometimes leopards undoubtedly kill young zebras, as well as full-grown female waterbucks and koodoos, and in the horse-breeding districts of the Cape Colony these animals used to be most destructive amongst the foals. I have myself known two leopards to attack a young giraffe, which they would have killed with the greatest ease—as it was not more than a day or two old—had they not been beaten off by its mother. In this case the old giraffe, in striking at the leopards with its forefeet, unfortunately hit its own offspring in the back, paralyzing its hind quarters, and I was obliged to kill it. It is a common practice with leopards, after they have killed an antelope and made their first meal off it on the ground, to then carry the carcass up a tree and place it in a fork at a height of from twelve to twenty feet from the ground. This is no doubt done to preserve the meat from the attacks of other carnivorous animals, such as hyenas and jackals, as well as from vultures, which cannot easily feed on a carcass hanging from the fork of a tree. The strength displayed by leopards in placing the carcasses of animals in trees at a considerable height from the ground is truly amazing. Like lions, leopards usually kill their prey by bites in the throat or at the back of the head behind the ears. After lapping up all the blood flowing from the wounds they have inflicted, they then disembowel the carcass, dragging the paunch and entrails a few yards away, and scratching up and throwing over them a certain

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amount of earth and grass. They then eat the tit-bits, kidneys and kidney fat, heart, and liver, brisket and parts of the head, such as the ears and nose. Later they eat the solid meat, which they tear off in large pieces with the skin attached. They will return again and again to the carcass of an animal they have killed until there is nothing left. Leopards undoubtedly like to kill their own meat, probably for the sake of the warm blood, but when hungry they do not disdain carrion. I once shot a leopard as it was tearing away at the foot of a dead rhinoceros which had been killed several days previously, and from the bones of which the vultures had already picked every atom of flesh. As with their Indian relatives, African leopards are very partial to dogs, which they will often carry off in the boldest possible manner from the very feet of their masters. A dog of mine was once seized by the neck by a leopard and carried off from my camp. Two days later it returned looking very crestfallen, and with four holes through the skin of the back of the neck. When the leopard seized it, the loose skin must have slipped up so that the dog was carried off by the scruff of the neck, and uninjured except for the tooth-holes through its skin. I imagine that after having carried it some distance, the leopard released its hold in order to give it a bite that would kill it, and that immediately it was dropped the dog dashed off and escaped. But the curious thing is that the dog was so terrified that, instead of returning at once to camp, it rushed away into the wilderness, and must have lain hidden in the bush for two nights and a day before venturing to come home. Though they are rare, cases of leopards killing and eating human beings—usually women—sometimes occur. Such a case came within my own knowledge when I was hunting on the Chobi River in 1879; and when I was at Meru on the slopes of Mount Kenia, in British East Africa, the year before last (1912), the Commissioner for the Meru Province, Mr E. B. Horne, told me that quite recently several women had been carried off in the daytime by man-eating leopards whilst working in their fields.

I think that, as a rule, female leopards usually give birth to three cubs at a litter; but, as with lions, there would appear to be great mortality among young leopard cubs, as more than one of a litter seldom seems to reach maturity. As with lions, too, leopard cubs live with their mothers until they stand nearly as high at the shoulder as their parent, when they are probably approaching two years of age; and between the birth of one litter of cubs and the time when the survivor or survivors amongst these go out into the world to fend for themselves, the mother never produces

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another litter, so that, as with lions, not only are leopards in the wild state slow breeders, but the majority of their offspring perish before reaching maturity. Leopards are solitary animals, both males and females usually living alone except during the pairing season. They are also much less noisy at nights than lions, though in parts of Africa where they are plentiful their harsh cry, a sort of rasping cough repeated several times in succession, is not infrequently heard.

Except in the rare case of man-eaters, leopards will always retreat at once at the sight or scent of a human being, nor will they stand their ground when first attacked by dogs. They always first run off, and will often climb a tree to avoid them; but when brought to bay they will fight most savagely, inflicting terrible wounds both with teeth and claws. Once it has been wounded, a leopard becomes a most dangerous animal, as if followed up, it is almost certain to charge at the very first opportunity, whilst its small size, and the terrific speed with which it makes its rush, renders it very difficult to hit. Most of the natives I have seen who had been mauled by leopards had been badly clawed on the head. I have been twice charged by leopards when on horseback, and on both occasions they seemed to me to make as much noise as charging lions, emitting just the same kind of loud, hoarse coughing roars as those very much larger animals under similar circumstances.

No special rifle is requisite for shooting leopards, as these animals are small-boned and thin-skinned, and can easily be killed by any of the modern small bores if hit in a vital spot. When charging, however, a leopard is undoubtedly a most difficult animal to stop, as it only offers a comparatively small mark and comes on at a terrific pace. A shot-gun loaded with buck-shot and a heavy charge of powder would undoubtedly be the best weapon with which to meet the charge of a leopard; but in all probability it would not be the one which a sportsman would have in his hands when a leopard charged.

THE SMALLER AFRICAN CATS

IN addition to such large and formidable representatives of the cat tribe as the lion and the leopard, there exist in various portions of the great continent of Africa many comparatively small species of the same genus. These smaller cats are, however, seldom encountered by sportsmen, as they are very nocturnal in their habits. Perhaps the commonest, as it is certainly the handsomest, of the lesser African wild cats is the serval (*Felis serval*), which is found in all localities suitable to its habits from the Cape to Algeria, and from Somaliland to Senegambia. Considerable variation is met with in the markings of servals even from the same district, and the ground colour, which is always handsomely spotted and streaked with black, may vary from pale yellow to a distinctly reddish shade. The serval is rather a long-legged animal, standing about eighteen inches at the shoulder. Black servals are sometimes met with. In South Africa, however, such animals are excessively rare, as in all my experience I only met with one example of the kind, which was killed by one of Lewanika's hunters in the valley of the Upper Zambesi in 1888. I managed to obtain the skin of this black serval from Lewanika with enormous difficulty, as he thought that it belonged to a previously unknown animal, and was therefore of almost priceless value. I subsequently presented this skin to the Natural History Museum at South Kensington.

The serval preys upon small rodents, and possibly the young of the smaller antelopes, as well as upon birds from the size of a guinea-fowl downwards. I have seen a full-grown serval, which had been caught as a kitten, as tame as any domestic cat, and that remembrance has given me the idea that the serval is less fierce and intractable by nature than most if not all other species of wild cats. When pursued by dogs, servals often take refuge in trees.

Very nearly allied to the serval is the servaline or small spotted serval (*Felis servalina*) of Uganda. The only difference between the two species is that in the servaline the conspicuous black stripes always present on the neck and shoulders of the typical serval are broken up into spots, whilst the spots all over the body of the servaline are smaller than in the serval. Otherwise there is no difference between the two animals.

Other species of small African cats are the tiger-cat (*Felis celidogaster*), which is an inhabitant of the equatorial forest zone; the common African

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wild cat (*Felis ocreata*), which, like the serval, ranges through the whole of Africa, exclusive of the Sahara and the equatorial forests; the jungle cat (*Felis chaus*), which is found in Egypt, Nubia and Abyssinia; the caracal (*Felis caracal*), which is widely distributed throughout Africa; and Burchell's cat (*Felis nigripes*). The last-named animal is the smallest of all the African felidæ. The range of this pretty little spotted cat is entirely confined to the semi-desert regions of Western South Africa, and it cannot be a very common species, as but few skins find their way to the stores of traders living in the Bechuana villages along the eastern border of the Kalahari. Some thirty years ago I obtained a number of skins of Burchell's cat from Bushmen in the Kalahari desert, and presented them to the Natural History Museum at South Kensington. Although Burchell's cat is so small an animal, being no larger than a half-grown domestic cat, the Bushmen told me that it often attacks and kills goats by biting them in the throat and probably opening the jugular vein.

Nearly allied to the true cats are the civet-cats, genets, meercats and mungooses, which are found all over Africa, but a detailed description of which is unnecessary in a work dealing with African animals primarily from a sportsman's point of view.

THE CHEETAH OR HUNTING LEOPARD

CYNÆLURUS JUBATUS

IN general appearance the cheetah differs very markedly from the true cats. In the first place, its claws are only partially retractile, and in shape more nearly resemble those of a dog than those of a cat. The body, too, is more slender, and the legs are longer and less muscular than in any true cat, whilst the canine teeth, if compared with those of a leopard, will be seen to be singularly small. The shape, too, of the skull in the cheetah is very different from that of a lion or leopard.

The cheetah is found throughout Africa in all open or thinly forested districts, from the Cape Colony to Abyssinia, and from Somaliland to Senegambia, but is never met with in mountainous regions, nor in tracts of country covered with dense bush or heavy forest. Unlike most predatory animals, the cheetah hunts by sight rather than by scent, and frequents districts where long views are obtainable. Having sighted their prey, cheetahs then proceed to stalk it up-wind, taking advantage of every tuft of grass or bush to conceal their approach. When sufficiently near, they rush in at a tremendous speed, and, fastening their teeth in the throat of their victim, bear it to the ground and never relax their hold until life is extinct.

There can be no doubt that for a short distance the speed of the cheetah surpasses that of any of the antelopes on which it preys, but there is ample evidence that this great speed cannot be maintained for any long distance. In South Africa only a few cases of cheetahs having been ridden down on horseback are on record, and it has been thought that such incidents were probably due to the fact that these particular animals had just made a heavy meal and were therefore in no condition for running. But the more recent experiences of many sportsmen on the open plains of British East Africa proves conclusively that, given good galloping ground devoid of cover, a horse can overtake a cheetah without any great difficulty, in spite of the fact that for the first few hundred yards the speed of the latter animal is far greater than that of the former. The cheetah, in fact, though incomparably swift for a short distance, is deficient in staying power. I may mention in this connexion that Mr Kermit Roosevelt, when in East Africa with his distinguished father in 1910, rode down and shot no fewer than seven cheetahs. I have myself ridden down cheetahs on two occasions in South Africa, and in neither case did the chase last more than a few

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minutes, nor was the distance traversed more than a mile. When the horse was almost upon them, these cheetahs suddenly squatted flat on the ground and allowed the horse to pass close to them without moving. They made no attempt to charge, and did not even growl, but, once overtaken, lay perfectly still until they were shot. I have never heard of a cheetah, either wounded or unwounded, showing fight, and when their diet and mode of life is considered, their docility and gentleness of disposition is truly remarkable. If captured as kittens and brought up by hand or by a canine foster mother, cheetahs become extraordinarily tame, and do not turn savage or in any way dangerous even when full-grown. When stroked and fondled, they purr with pleasure just like domestic cats, only more loudly.

Though single cheetahs are sometimes encountered, they usually live in pairs or in families. On several occasions I have met with four together, and on one occasion six. In this party there was one big male, but all the others looked the same size, and were apparently full-grown. Possibly they were two old females, with three nearly full-grown cubs. As I have seen a male cheetah accompanied by two full-grown females, I imagine that these animals are not strictly monogamous. From two to four cubs are born at a birth, the usual number being three. They are blind at birth, with long fluffy hair of a greyish colour, covered with small indistinct spots. As they grow older their coat gets shorter, and becomes of a general pale yellow, dotted with round black spots. The tail is long and fluffy, and on the neck and throat the hair grows so long as to form a ruff.

As a rule, cheetahs probably prey upon the small or medium-sized antelopes, but I have known them to kill a full-grown sassaby, and instances are on record of cheetahs killing such large and powerful animals as male waterbucks and koodoos. Such cases are, however, probably exceptional. After having killed, they disembowel their prey, but in a rough-and-ready manner, in strong contrast to the neat and cleanly methods of lions and leopards. They sometimes lie up close to the carcass of an animal they have killed, probably in order to keep off vultures, but will usually, after having eaten their fill, at once leave it and never return. There is little sport, if any, to be got out of shooting cheetahs, as no danger is to be attached to their pursuit. A hard gallop after one is, however, exciting and exhilarating while it lasts. No special rifle is required for cheetahs, as they are not very tenacious of life, and can easily be killed with any small bore expanding form of bullet.

HYENAS, JACKALS, WILD DOGS, Etc.

HYÆNIDÆ, CANIDÆ, Etc.

IN addition to the large and small felidæ and their near allies the civet-cats and genets, there are various other carnivorous animals inhabiting the continent of Africa which, although they may make no special appeal to the sportsman, are nevertheless of great interest to the naturalist, and cannot, therefore, be passed over without mention in any book dealing with the wild animals of Africa.

Of these predatory beasts, perhaps the most important and best known are the hyenas, of which highly specialized animals three distinct species are found in Africa. Of these the spotted hyena (*Hyæna crocuta*) is the largest and the most widely distributed, as it is found all over that continent from the Cape Colony to Senegambia and the Sudan, and is equally at home in the hot, moist climate of the coast regions of the equatorial zone and the high, cold plateaux and mountain-slopes of the inland districts. Although not standing much over thirty inches at the shoulder, and weighing not more on the average than 120 lb., it has always struck me that a spotted hyena is a very much more powerful animal than any dog of the same size and weight. I have seen one seize a large goat by the neck and go off with it at full gallop, and only last year, when sitting up watching for lions over the carcass of a large male *oryx beisa*, on a bright moonlight night, I saw a spotted hyena seize this heavy carcass by the neck and drag it two or three yards before it saw or winded me, when it at once ran off. The power of a hyena's jaws is proverbial, and I have myself known one to make its escape from a large steel trap by wrenching off one side of it. The springs of this trap were so strong that it required two men to set it. A wounded spotted hyena which I once attempted to spear with a very long bladed assagai made specially for stabbing elephants from trees, seized the blade of the spear in its teeth and crumpled it up in a most surprising manner. Once its jaws had closed on the blade, I was unable to pull it from its mouth, as, although it bit it from one end to the other, it opened and closed its teeth on it so quickly that it never lost possession of it.

Out in the wilds in uninhabited parts of Africa spotted hyenas are very timid, and usually show great fear and distrust of human beings, but where they live in the midst of a dense native population they often become

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very bold, though in a sense they are always cowardly. In former times amongst the Zulus and the Matabele, when men and women were continually being killed for witchcraft, and their bodies left lying just outside their villages, these were invariably eaten by hyenas. Indeed, when Lo Bengula, the last King of the Matabele, passed sentence of death on any of his subjects, all he said was "Niga impisi" ("Give him [or her] to the hyenas"). Amongst the Wa-kikuyu of British East Africa to-day the dead are not buried, but left exposed in the bush near the villages, and are always eaten by hyenas. Under such conditions, hyenas lose their fear of man to a considerable extent, and if hungry will attack sleeping people, even entering huts for this purpose if the doors are left open or insecurely fastened. In such cases they usually attack the head, tearing the flesh from the skull and face. I have seen many natives who have been thus disfigured, but have recovered from their wounds. Two cases of Europeans having been attacked at night when asleep by spotted hyenas have also come within my knowledge.

When living in countries where there is a large native population and little or no game, spotted hyenas, if they cannot find or dig up a sufficiency of dead bodies to satisfy their hunger, kill large numbers of sheep, goats, and calves, which they carry off at night from the pens in which they are enclosed. They will sometimes, too, kill full-grown native cows. In doing this, they attack between the hind legs, first tearing away the udder and then dragging out the intestines. I once had a fine large stallion donkey killed much in the same way by a single hyena. It was first seized by the testicles, which were bitten off, and the stomach then torn open and the entrails dragged out. This was all done in an extraordinarily short space of time, as we heard the donkey's cry of distress when first attacked close behind our camp, and ran at once to its assistance. It was still alive when we reached it, though it had been already almost completely disembowelled. In uninhabited country, no doubt, spotted hyenas sometimes kill game, especially young animals; but they probably subsist principally on the remains of the antelopes, zebras and buffaloes killed by lions. In addition to whatever meat they may obtain in this way, the hyenas often eat the marrow bones, which they break up and swallow in large pieces, after first abstracting the marrow. Spotted hyenas are very noisy animals, and their ordinary howl, beginning on a low note, and rising in cadence to a scream, is one of the weirdest as well as one of the commonest sounds to break the stillness of an African night.

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When many hyenas are collected together feasting on the carcass of some large animal, they sometimes make the most extraordinary noises, cackling and laughing and bellowing like a troop of evil spirits. But such weird concerts are not often given.

In the daytime spotted hyenas lie up in beds of reeds or amongst long grass, or on rocky hill-sides, though sometimes their diurnal resting-places are in caves. I think that these hyenas usually pass the day alone, but at night they collect together round the carcass of a dead animal or a human body. I once, however, saw thirteen spotted hyenas emerge one after the other from one cave in some limestone rock in British East Africa. This was late in the afternoon, a little before sunset, so that in this case these thirteen hyenas had been spending the day together, and were no doubt in the habit of doing so, separating and hunting singly or in pairs at night.

I have sometimes put up hyenas in the daytime in good galloping ground, and ridden after them. I always found them possessed of great speed and endurance, and could never overtake one in a run of less than a mile.

The females bring forth their young in burrows made by the African ant-eaters (aardvarks), and Bushmen have told me that the number of pups produced is two, but I have no personal knowledge as to whether this assertion is true. However, I know from personal observation that in the female spotted hyena with young the udders are placed very far back between the hind legs, and do not extend along the belly, and that she has only two teats.

The striped hyena (*Hyæna striata*) is not, like the spotted species, an exclusively African animal, its true home being Southern Asia, from whence it has spread through Asia Minor, Syria and Arabia into Northern and Eastern Africa. In Abyssinia and Somaliland it is equally common with the larger spotted species, but to the south of the Juba River it is not anywhere plentiful, although met with sparingly as far south as the northern districts of German East Africa. In British East Africa it is decidedly scarce, and I have only met with it myself on the Northern Gwas N'yiro River near the Lorian Swamp.

Except in Abyssinia and Somaliland, the striped hyena seldom comes in the way of African travellers or sportsmen. It is much more completely nocturnal in its habits than the larger and bolder spotted hyena, seldom going abroad until it is quite dark, and returning to its lair as a rule before

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daylight. It is, too, much less gregarious than its larger relative, living and hunting either alone or in pairs. Though very timid and cowardly in disposition, it will sometimes muster up sufficient courage to attack a native sheep-fold. If disturbed in its lair in the daytime in fairly open country, it can be ridden down, but not without considerable difficulty, as it can run at considerable speed, and possesses great powers of endurance.

The brown hyena (*Hyæna brunnea*) is in size intermediate between the spotted and striped species, though its long coat of coarse, dark brown hair and bushy tail make it appear a larger animal than it really is. In habits and disposition it more nearly resembles the striped than the spotted hyena, being far less bold and destructive to stock than the latter species.

The brown hyena was first met with by the early Dutch settlers at the Cape in the middle of the seventeenth century, and was named by them "strand-wolf" (shore-wolf), from its habit of frequenting the seashore to prey on the remains of any whales, porpoises, or fish which had been cast upon the beach. The range of this species of hyena seems to be almost entirely confined to South-West Africa, though it is said to have been met with in the neighbourhood of Kilimanjaro, in German East Africa. Personally, I have only twice met with brown hyenas in the flesh—once in the country between Secheli's Station (Molipololi) and Khama's old town of Bamangwato, and once on the lower course of the Macloutsi River, in the valley of the Limpopo. In both cases there were a pair of these animals together, feeding on the remains of antelopes I had shot the previous day. Brown hyenas must, however, be fairly common in parts of Bechuanaland, as whenever I passed through Molipololi between 1872 and 1888, I always noticed a number of their skins spread as mats on the floor of Secheli's house. Secheli was the late paramount chief of the Bakwena tribe, and father of Sebele, the present chief. Throughout all the territories comprised within Southern and Northern Rhodesia, the brown hyena is, to the best of my belief, entirely unknown, which makes the statement that it has been met with in German East Africa somewhat remarkable.

The African hunting dog (*Lycæon pictus*) is an inhabitant of the greater part of the African continent wherever game is plentiful, though it is not found either in the equatorial forest region or in waterless or mountainous districts. This species differs very much in appearance both from the wolf

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and from any species of Asiatic or Australian wild dog, having a much shorter and more hyena-like head, and large rounded instead of pointed ears. Moreover, the African hunting-dog differs from all its nearest allies in having only four toes on the front as well as on the hind feet. In size a male hunting-dog stands about two feet at the shoulder. In colour and length of coat there is a considerable difference between the wild dogs found in different parts of their range, and several local races of the species have been recognized by British and German naturalists; but as the points of difference between these races are entirely superficial and unimportant, and as all African hunting-dogs, wherever they are met with, are identical in habits and mode of life, it is hardly necessary to refer to these sub-species in these pages. In ground colour, African hunting-dogs are of a yellow fawn, with black, grey and white patches superimposed. The tail is bushy, with a white tip, and in the colder portions of their range the coat is thick, and there is often a ruff of long hair round the neck. In East Africa the hunting-dogs appeared to me to have more black in their colour scheme, especially on the head and neck, than in South Africa. Hunting-dogs usually live and hunt in packs of from a dozen to twenty, but I have seen more than thirty of them together. They hunt both by night and day, but usually early in the morning. Being possessed of great speed and endurance, they can run down even the fleetest of African antelopes, and I once saw a pack chasing a herd of thirty or forty buffaloes which they had succeeded in stampeding. The buffaloes were pounding along at a heavy gallop, with the wild dogs running lightly on each flank and behind them; and but for my appearance—the buffaloes ran right on to me and then swerved sharply to one side—it is quite possible that a calf might have been attacked and killed.

I have seldom met with less than seven or eight wild dogs together, but last year I came on three in British East Africa, or rather, they came on me. I first heard a sort of howling, barking noise in the bush near by, and then saw first one and then two more wild dogs galloping towards me, howling or barking all the time. They came up to within less than a hundred yards, and then halted and stood looking at me, but soon trotted off into the bush again. I fancy they must have heard the noise made by me and my boys in walking on the hard ground, and that they came galloping up prepared for a chase after an antelope. Although wild dogs appear to be very fearless, not to say menacing, when suddenly encountered, I have never heard of any well-authenticated instance of their

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attacking human beings; nor, whenever I met with any of these animals when in company with South African Bushmen, did I ever notice that these wild people showed any fear of them. If suddenly met with in long grass, wild dogs will keep continually jumping up to get a good view. On such occasions they continually give vent to a kind of bark, sounding something like "hoo-hoo." I have only once seen a wild dog alone, and this animal ran up to and twice bit a large sable antelope bull in the flank before it became aware of the presence of myself and party, when it at once ran off. It is noteworthy that on this occasion this wild dog made snapping bites at the thin skin of the flank, but did not hold on for an instant. Its object evidently was to tear a hole through the skin and get at the entrails, which it would then have gradually torn out. Once, with two friends and a lot of our wagon dogs, I galloped after a pack of wild dogs which ran out of a dry river bed close alongside of us. Whether these wild dogs were so gorged with a recent heavy feed or not I cannot say, but we galloped right amongst them with the greatest ease, and our dogs caught two of them. I rode backwards and forwards over a big male several times before shooting it. Every time the horse was close on to it, it rolled over on its back and let the horse jump over it. This experience is the more curious as I have seen wild dogs run up to antelopes, which I have never been able to overtake on horseback. The female wild dogs bring forth from four to six whelps in the deserted burrows of ant-eaters (aardvarks), which they enlarge themselves.

Of the several species of jackals inhabiting Africa, the best known, as it is by far the handsomest, is the black-backed or silver jackal (*Canis mesomelas*), which ranges through the whole of the eastern half of that continent from the Cape Colony to Abyssinia. This jackal frequents open grass plains or thinly forested districts, and its sharp, barking cry is one of the commonest sounds to disturb the peace of an African night. It preys upon the remains of lion kills and whatever birds and small animals it can catch, as well as upon locusts, eggs and reptiles. It hunts both by day and night, and, being possessed of great speed and endurance, can on occasion run down and kill such small antelopes as half-grown steinboks or duikers. On the sheep farms of the Cape Colony many lambs were destroyed annually by black-backed jackals before the numbers of these fierce little animals were greatly reduced by the use of strychnine. When chased by dogs, these jackals often take refuge in antbear holes, where also the females bring forth their young.

HYENAS, JACKALS, WILD DOGS, Etc.

The side-striped jackal (*Canis adustus*) is a larger and heavier animal than the black-backed species, but does not differ materially from it in its habits and mode of life. The range of the side-striped jackal extends from a little to the north of the equator to Zululand. When I was last in East Africa, a case occurred near Nairobi on the farm of Mr H. H. Heatley, of a native child being attacked by a jackal. The little sufferer—a mere baby—had been left by its mother in the shade of a bush whilst she was working in an adjoining field, when in broad daylight it was attacked by a jackal, and would doubtless soon have been killed had not the mother, attracted by its screams, run to its assistance and driven its assailant off. Before it was rescued the child had, however, been severely bitten by the jackal, which I am inclined to think belonged to the side-striped species, though of this I am not certain.

In addition to the two species of jackals already enumerated, which are the best known of the group, four other species are also found in Africa, namely, the Egyptian jackal (*Canis lupaster*), the Morocco jackal (*Canis anthus*), the variegated jackal (*Canis variegatus*) of Abyssinia and Somaliland, and the pygmy jackal (*Canis mensesi*), which appears only to occur in the last-named territory; but as in their habits all these animals very closely resemble one another and the more generally known members of the group to which they belong, no detailed description of them is necessary.

In addition to the jackals, a small fox (*Canis cama*) is found in South-West Africa, whilst the pretty little fennec fox (*Otocyon megalotis*) inhabits the same area in the south, and is also found in the semi-desert regions of North-East Africa. The Cama or silver fox, living in countries where the winter nights are very cold, grows a thick, soft, silver-grey coat, and its skin is much appreciated by the natives of the various Bechuana tribes and used in the making of fur rugs or karosses. It is a much smaller and weaker animal than the black-backed jackal, and of a less enterprising nature, never killing anything but small mammals and birds. It is solitary in its habits. The pretty little, large-eared fennecs are, on the contrary, very sociable, living in burrows in small colonies. They are very harmless little creatures, living almost exclusively on ants and other insects. Their teeth are very small and weak. Equally inoffensive and harmless is the curious aardwolf or maned jackal (*Proteles cristatus*), which is an inhabitant both of South-Western and North-Eastern Africa. In appearance the aardwolf looks very much like a very small striped hyena, as it is much

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of the same general colour, and the ridge of long hair on its back and shoulders gives it a very hyena-like outline. Its teeth, however, are so small as to be almost rudimentary, and it seems to be incapable of killing even the smallest mammals, living almost entirely on insects. It is a solitary animal, and not very often met with, as it is nocturnal in its habits.

The Cuberow, or Abyssinian wolf (*Canis simensis*) appears to be entirely confined to the mountainous regions of Central Abyssinia, and even there it is said to be very rare. But little is known of this very localized species. In appearance it is said to resemble a small wolf, but in habits to be nearer akin to a fox.

Other African mammals, which may or may not be encountered by the African sportsman or traveller, and a bare enumeration of which will be sufficient for the purposes of this work, are the African Ratel or honey badger (*Mellivora ratel*), the Cape otter (*Aonyx capensis*), the spotted-necked otter (*Lutra maculicollis*), the porcupine (*Hystrix Africa-australis*), the Pangolin or scaly ant-eater (*Manis temmincki*), the ant-bear or aardvark (*Orycteropus afer*), two polecats or skunks belonging to different genera, and many species of hares.



RECORD BARBARY STAG, from the Forest of Sukaras, Algeria.

Length on outside curve $38\frac{1}{2}$ inches: Circumference $5\frac{1}{2}$ inches: Points 6×5 .

In the collection of Sir Edmund G. Loder, Bt.

PLATE LX.

THE PALÆARCTIC FAUNA OF NORTHERN AFRICA

THE BARBARY STAG

CERVUS ELAPHUS BARBARUS

ZOOLOGICALLY speaking, the fauna of Africa is almost entirely Æthiopian in character, and that of Europe Palæarctic; yet in Southern Italy and in Southern Spain, which must have been connected with Northern Africa in comparatively recent times, speaking geologically, certain members of the Æthiopian fauna still exist, such as the Barbary ape, the genet, the porcupine and the jackal; whilst in Northern Africa certain species actually identical with or at least generically allied to the existing palæarctic fauna of Europe have succeeded in establishing themselves. Amongst these is the Barbary deer, which is still found in the mountain forests of Morocco, the East of Algeria and the western portions of Tunis.

If there is any difference at all between the red deer of Northern Africa and the red deer found in the South of Spain and in the islands of Sardinia and Corsica, it is, at any rate, so slight that the Barbary deer cannot be looked upon as anything but a local race of *Cervus elaphus*, of Central and Western Europe. In the Barbary stag the second or bez tine is said to be usually wanting, but the absence of the bez tine is not at all uncommon in the red deer of Scotland, and is quite common in heads from the South of Spain and the Island of Sardinia. Few, if any, English sportsmen have stalked and shot the Barbary stag. Living as it does amongst the cork and pine forests of the Atlas Mountains, and persecuted as it has been by native hunters, it is no doubt very secretive in its habits, and the best time of year at which to hunt it would probably be in September during the rut, as is the practice in the mountain forests of Austria-Hungary, Asia Minor and the Caucasus. As is the case with the mountain stags of Southern Spain, the stags of the Atlas mountains must sometimes grow very fine antlers, as a pair in the possession of Sir Edmund Loder measure thirty eight and seven-eighths inches along the beam. In this specimen the bez tines are apparently present, since the circumference between the bez and trez tines is given as five and three-eighths inches.

THE BARBARY SHEEP

OVIS LERVIA

THE audad, arui, or Barbary sheep, is another animal of palæarctic affinities whose range extends to the African or Æthiopian region. Its headquarters are the mountains which overlook the Mediterranean from Morocco to Algeria, but it is also found amongst isolated, arid, rocky hills in Egypt and the Sudan, almost as far south as Khartum. In height the Barbary sheep stands nearly forty inches at the shoulder, and is a stoutly built, heavy animal. The males, and to a lesser extent the females, are adorned with a growth of long hair which hangs from the throat and extends to the chest and forelegs. The colour of the Barbary sheep in both sexes and at all ages and seasons is a uniform light sandy yellow, which accords exactly with the tints of the parched surroundings amongst which it lives. The heavy horns curve backwards, and in the males have been known to attain a length of thirty-three inches, though anything over twenty-five inches is uncommon. In the females the horns are of the same shape as are those of the males, and relatively larger than in any other species of wild sheep. These horns are in young and middle-aged animals well marked with transverse ridges, which, however, in old age are often worn nearly smooth. The audad is said by the Arabs to be able to live without drinking for several days at a time. It never appears to congregate in large flocks, but lives in small family parties. Though very active on broken, rocky ground, the Barbary sheep cannot be very fleet if driven into level country, as Mr Gilbert Blaine ran down and captured one on camelback, which he and his men had forced to take to the open from some isolated rocky ridges in the province of Dongola, far to the west of the Nile. This specimen, which I saw two years ago in the Zoological Gardens near Cairo, was carried safely on the back of a camel many days' journey to Dongola, on the Nile. All sportsmen who have hunted the audad have found it very wary and difficult to stalk, and very difficult to see when lying resting in the shade of rocks, the colour of which closely resembles that of its own coat. It is very nocturnal in its habits, only moving about and feeding after dark, and in the cool of the morning and evening. Though a strong, tough beast, like all wild sheep, the audad can be easily killed by any of the many small-bore, high-velocity rifles now on the market.



BARBARY SHEEP, from Algeria.

Length on outside curve $28\frac{1}{2}$ inches: Circumference $11\frac{3}{8}$ inches: Tip to tip $18\frac{1}{2}$ inches.

Shot by Sir Edmund G. Loder, Bt.

THE NUBIAN IBEX

CAPRA NUBIANA

THOUGH readily distinguished both from the European and all species of Asiatic ibex by the general appearance of its horns, which, though they sometimes grow to a great length, are very slender, with a very narrow front surface, the Nubian ibex is closely allied to the other members of the genus to which it belongs, and, like the audad and the Barbary stag, is doubtless an intruder amongst the Æthiopian fauna from a more northern habitat.

In height the Nubian ibex stands about thirty-two or thirty-three inches at the shoulder. The general colour of the upper parts in both sexes is a sandy brown, with the chin, beard, flanks, chest and lower part of the legs dark brown or black. A black dorsal line also runs down the back. In fine examples the horns of the Nubian ibex grow to forty inches, and instances have been recorded of lengths of forty-six and fifty-one inches. In the females the horns are very small, being only five or six inches long. The horns of the males are beautifully curved and the knobs on the front portion well marked. This species of ibex was first met with in Africa, in Upper Egypt and Nubia, but it is also plentiful in the mountains bordering the Red Sea, in the neighbourhood of Port Sudan and Massowah. It is also thought to exist in the mountains of Morocco, and in the interior of Senegambia.

Living as they do in arid rocky mountains almost devoid of all vegetation, and in an excessively hot part of the world, and being at the same time very wary and watchful, to fairly stalk these wild goats is a most fatiguing pursuit, and they are much more easily shot by driving.

THE ABYSSINIAN IBEX

CAPRA VALI

THIS splendid animal, one of the handsomest of all wild goats, was first brought to the notice of European zoologists in 1835 by the great naturalist Rüppell, whose description of it is as follows: "Front and upper side of head, neck, and back, beautiful chestnut brown; muzzle, a curved streak between eye and ear, sides of neck, body and rump reddish umber brown. Region under the eye and ear, the chin, throat, chest and inner surface of the thighs and belly, dirty white. Outer side of thighs and legs and sides of belly, dirty grey. Feet whitish, with a large spot at the fetlock and a stripe down the legs black. Root of tail chestnut brown, tip black. Inner side of ears white with a reddish border, outer surface red-brown. Iris of eye pale brown, pupil dark blue."

The Abyssinian ibex is a much larger and stouter-built animal than its Nubian relative, standing about forty inches at the shoulder. The horns are more massive, but less curved than in the latter species, whilst the knobs along the front face are smaller. The longest pair known measure forty three and seven-eighths inches over the curve.

From the date of its discovery by Rüppell in 1835 nothing more was ever heard of the Abyssinian ibex or wala, as it is called by the natives, until 1901, in which year Major P. H. G. Powell-Cotton made an expedition to the mountains of Simien and procured a fine series of specimens of this rare and handsome animal.

Major Cotton's notes on the habits of the Wala, than which none other are available, as he is the only English sportsman who has ever hunted and shot this animal, are as follows:

"This ibex is called wala by the Abyssinians, and is said to exist only in the mountains of Simien. I shot four specimens at the commencement of autumn (end of June), just at the beginning of the rutting season.

"There were slight falls of hail and snow, and it was very cold at night. There are said to be two feet of snow on the hilltops in August. On June 25 I saw two males and one female; later on the same day I saw a larger male by itself and shot it. On the 26th I saw two large males feeding by themselves, and later on found them with thirteen

NUBIAN IBEX

PLATE LXII.



THE ABYSSINIAN IBEX

females. On the 27th I found the same herd, and shot the two large males and one female. These were the only three large males on the ground. The natives hunt these animals persistently for their flesh, skins and horns (which they use for tumblers), and, now they are so much better armed, I believe in a very few years the animals will be extinct. The three male specimens shot, and a head which I found, all had the points of the horns turned inwards; but a pair of horns presented to me by Dedjatch Zerefer, which he said were obtained on Mount Hi, had the points turned outwards. I found the ibex on the eastern slope of Mount Buiheat, one of the highest in the Simien range—in the French maps it is marked as 4,510 metres in elevation. The top is undulating grass land, with a much-frequented path running along close to the edge of the cliffs, at the foot of which is the ibex ground.

“The cliffs being too high for a shot, and, so far as I could discover, there being no direct path down, it seemed to be a favourite amusement of passing caravans to roll over stones in the hope of seeing a herd disturbed. At the foot of the first line of cliffs, and below several lesser, ill-defined lines lower down, are the runs and lying-up places of the ibex and klipspringer. The earth and stones dropping from above have formed banks some little distance from the face of the cliffs, while here and there an overhanging rock forms a roomy shelter under it. The ibex appear regularly to use these partly concealed runs in moving from one part of the ground to another, and it was in them that I found numerous traces of where native shikaris had lain up to get a shot at them, generally overlooking a drinking-place or a favourite shelter.

“The steep ground between the different lines of cliffs is covered with long, coarse grass, along which the curious Tree-Lobelia (*Lobelia rhynchopectala*) grows, besides firs, birch and many scrubby bushes, the whole reminding me very much of the kind of place where I have shot thar in Kistawar, Kashmir, and being quite unlike any ground where I had previously seen ibex.

“Even when the animals were feeding in the early morning and late afternoon, it was by no means easy to make them out amongst the undergrowth. At the foot of the mountains large flocks of sheep and goats were grazing, being sheltered at night in caves, the openings of which were protected by stone walls and wattles. Lower down there

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was a large stretch of cultivated land, and several groups of huts, forming the village of Lurey.

“Although I had a special letter from the Emperor Menelik to the Governor of Simien, and from the latter to the different headmen, they placed every sort of passive obstruction in the way of my shooting ibex, and one and all seemed most anxious to get me out of the country as quickly as possible, in spite of their receiving all the meat killed, besides presents and liberal rewards.”

As this interesting account of the Abyssinian ibex was written more than ten years ago, and as that fine animal was even then becoming scarce, and was entirely confined to a very limited range of country, it is to be feared that it must now be on the very verge of extinction, since the Abyssinian tribesmen by whom Mayor Powell-Cotton tells us it is constantly hunted have now become possessed, almost to the last man, of arms of precision.

ABYSSINIAN IBEX

PLATE LXIII.



H. DIXON

THE WILD BOAR

SUS SCROFA

ALTHOUGH the wild boar of North Africa has been separated from the European species under the name of *Sus scrofa barbarus*, there can be no doubt that it is practically identical in appearance and habits with the wild boars of France and Spain, and is at most but a local race of the European wild boar.

A large specimen of the North African wild boar is said to stand as high as thirty-five inches at the shoulder, and to attain a weight of 300 lb.

It is a common animal in Morocco and Algeria, wherever the country is covered with forest and brushwood, and in the former country must also frequent more open districts, as in former days when that country was in a more settled condition than at present, pigsticking was a sport regularly indulged in by the European residents in Tangier. Like all wild boars and bush pigs, however, the North African wild boar is very nocturnal in its habits, lying up in the daytime in thickets, where it is completely sheltered from the heat of the sun. As many as eight or even ten young are said to be produced at a litter. When first born, they are longitudinally striped, as is the case with all races of the wild boar in Europe and Asia. In a short time they lose their stripes and become of a uniform brown, turning nearly black when half-grown. The young of a litter live with their parents until they are nearly two years of age, so that a sounder of hog might comprise a family of from eight to a dozen animals. The tusks of the North African wild boar are, on the average, fully equal in size to those of the European species found in France and Spain, and are formidable weapons of defence or offence. Though not aggressive, the North African boar is a brave and determined animal when brought to bay, and many good dogs have lost their lives in encounters with these animals.

F. C. SELOUS.

EUROPEAN GAME

INTRODUCTION

IN most of the European countries we see in the game laws of the present day a triumph of the democracy, for, with the exception of Austria, Hungary and the German Empire, where the old feudal relations between the nobles and the people still exist, game is only permitted in large quantities with the will or interest of the people of that country. The game laws of the Middle Ages preserved the privileges of the chase to the Court, the nobles, and the clergy, whilst those who trespassed against them were rewarded with death in the case of the deer-slayer and sound floggings for any first offences. The opposition to such harsh treatment grew with the ages and culminated in France at last in the Revolution. In the British Isles the strict code of the Plantagenets appears to have generally lapsed until it was revived in its worst form by the Stuarts. After the Commonwealth Charles II was clever enough to see the futility of crushing the legitimate rights of the people, and allowed them to slaughter wild deer indiscriminately in Crown forests and elsewhere. In France after the Revolution sporting legislation appears to have been abandoned, and even to-day small estates where game is preserved are few and far between. The same democratic spirit occurs in Spain, Portugal, Switzerland, Greece and Italy, with the result that the great store of game which once flourished in those countries is gone, probably never to be seen again.

In Norway the feeling has always been that the native sportsman must enjoy the privileges of the chase with certain advantages over the travelling foreigner who is willing to spend his money there. This, again, is all against the increase of game as well as a block to the advent of money in a country sadly in need of it. There is now, however, a distinct move on the part of wealthy farmers to preserve elk, for they have at length discovered that they may still have their winter meat and can attract a silly Englishman to shoot it for them and pay highly for the privilege. The case of the reindeer is quite different. That animal has been harried to the verge of extinction by an army of young men armed with Krag-Jørgensen rifles, for with the single exception of the mountainous region

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between Stavanger and Sætersdal, controlled by Dr Heiberg, there is no district in Norway where these fine animals are preserved. Even here poaching is common along the outskirts, whilst the lendsman, not wishing to be unpopular, gently closes both eyes at the appearance of skins and horns.

Denmark is a farming country and too thickly populated to permit a great stock of game, and the same might be said of Belgium, which, although possessing considerable forests, also carries an enormous number of men who delight in the gun. Spain, without doubt, would harbour a great quantity of the forest animals of the chase were proper regulations enforced for their protection.

In the present volume of this series it is our intention to give the sportsman the present-day conditions of game in Europe and Africa, and to tell him where the various animals and birds of the chase may be found, so that he may wander for a little way or far afield with some reasonable prospect of meeting with the creatures he desires to kill. The following list of European countries and the game to be found there is only a brief summary of general information. The principal animals of the chase and the conditions under which they are hunted are dealt with in subsequent chapters.

BRITISH ISLES. The chase of birds and animals has already been described in Vols I and II of this series.

DENMARK. Roe, hares, partridges and pheasants are preserved on a few estates. Red deer are scarce and equal in size to British examples. Permission to stalk them may be had for a small fee, but they are generally killed by driving. On the coasts there is good wild-fowling in autumn and winter.

NORWAY. In certain districts elk are now abundant, the season for shooting them being from September 10 to September 30. They are most numerous in Namdalen, Stjordalen and Guldalen, although a good many exist in Vaerdalen, North and South Selbu, Leksdal, Meraker and south as far as Christiania and Sætersdal. Old bulls are always scarce and two or three may be considered a fair season's bag. Messrs Lumley and Dowell and the Norwegian agents always have a good number of reliable elk grounds to let and their prices range from £40 to £100. It is well, however, to remember that the sportsman must have a large area of ground to range over and that he must engage the best hunter and dog available in the district. Accommodation is usually found in a farmhouse or sæter,

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but it is well to carry a light portable tent for camping out on distant beats. A few wild reindeer are still found in nearly all the high mountain ranges from Sætersdal to Finmark, but the chances of meeting with good bucks is somewhat remote owing to the competition of local sportsmen. In the Hardanger Vidden there are still many wild reindeer which can be killed by taking one of the small stone huts scattered over the high plateaux. There are also a few about Upper Sirdal and on the watershed between Laerdal and Hallingdal. The most reliable grounds are those preserved by Dr Heiberg (Urienborgterrasse, Christiania), who controls some 200 square miles of reindeer territory between Stavanger and Sætersdal. His best shootings are Lysehei (40,000 acres), 4-14 reindeer; Kleggedal (30,000 acres), 4-8 reindeer; Aurevand (45,000 acres), 3-6 reindeer; Holmevand (20,000 acres), 5-8 reindeer; Nessehei, 8 reindeer; Opstadhei (30,000 acres), 8 reindeer; Ljosedal (45,000 acres), 6-8 reindeer; Gyhei (35,000 acres), 5-8 reindeer; Hovand (30,000 acres), 4-6 reindeer; Nome-land (25,000 acres), a few reindeer. The season lasts from September 1 to September 14. There is also good trout fishing and excellent ryper shooting on some of these beats.

Owing to the natural forest conditions and a measure of protection red deer have greatly increased of recent years. Formerly they were only numerous on the island of Hitteren and the adjoining coastlands, but now there are numbers of red deer from Bergen to Thronhjøm, principally near the coast, whilst some are found at intervals as far north as Namsos and Mo. There are also a good many on Nord-Fjord. The stags of Norway are not as fine as those of the Continent, but they are large animals with somewhat better heads than Scottish deer and require careful and arduous stalking in the dense forests. There is very good ryper shooting in Norway, the best being on the Lofoden Islands and in the Sætersdal district, where bags of 500 brace have been made in recent years. Wildfowling in Norway is not of much account, as the coast fjords are all too deep.

SWEDEN. To those who like wild sport combined with strenuous work the chase of the elk with the "los-hund" offers considerable attraction, but elk are, on the whole, much scarcer in Sweden than in Norway. The best elk are found in Jemtland and Narbotten, and the season is from September 1 to September 10. There are no wild reindeer in Sweden, and bears, both in Norway and Sweden, are now so scarce as not to be worth hunting. Good ryper shooting up to 300 brace for the season is to be had at Edsossan and other estates, and capercaillie and blackgame are found

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on most forest districts. In Southern Sweden the winter climate is so mild that many birds and animals of temperate regions flourish there. The finest roe deer in Europe are now found in South Sweden, where they are carefully preserved, and there is a good stock of pheasants, partridges and hares.

FINLAND. There is now a very fair stock of elk in Southern Finland, and shooting may be hired from local agents, but the elk are much smaller than those of Sweden and Norway. In Eastern Finland bears are fairly numerous and "ringed" bears may be bought as they are in Russia.

RUSSIA. There is a considerable variety of big game in European Russia. The elk is found throughout the Northern and Central districts and extends south through the Baltic provinces to the Polish frontier, including the Governments of Minsk and Mohiler and eastwards to the Governments of Tambov and Saratov. It is also found in the Urals and extends its range almost to the Arctic Ocean. The usual methods of hunting the elk in Russia are by the use of the led or loose dog, by driving and by calling in September. The shooting season lasts from the end of August to December 31. The art of calling the bull elk is little practised owing to the difficulty of finding efficient callers, so that few elk are shot by this method. In the Urals the professional hunters who visit the Taiga for elk rely on tracking the animal in deep snow.

Bears are still fairly numerous in Russia and grow to a large size. They are usually hunted by driving in winter after their cold-weather retreat has been ascertained. They are then "sold" by the peasants at so much per pood (32 lbs), the price per pood varying with the facilities of getting the beast and the distance from the nearest railway station. Bears were formerly very numerous near St Petersburg, but they are now scarce, the Government of Olonetz and others to the east being now the best districts. Prince Demidoff tells me that the largest European bear he has seen killed weighed 800 lbs (25 poods).

The European bison, known in Russia as "zubr," is now only found wild in the Grand Duke Serge's hunting grounds of the Kouban in the Caucasus, but a large number are preserved in the Emperor's park at Bielovege in Russian Poland. The Bielovege Park is an immense enclosure of over a hundred square miles. Once a year the Emperor and his guests shoot over part of the ground, where drives are organized and forty or fifty of these animals are killed. Prince Demidoff estimates the number of wild bison in the Caucasus at 500 head, and the Grand Duke Serge only allows three animals to be killed in September.

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Red deer are widely distributed over the Russian Empire. The finest exist in Poland, where over 100 stags are annually killed in the Imperial hunt in the forests of Bielovege, Skernewitz and Spala. They are killed both by driving and stalking, and heads are somewhat better than those of modern German stags.

There are fine stags in the district of Nijni-Novgorod, but so far, owing to the density of the forests, no sportsman has yet tried his luck.

Wild reindeer are distributed over the northern districts of Russia and wander through the forest region as far south as Nijni-Novgorod and Kazan, migrating periodically through the timber in the same fashion as the American races. They are also found in small numbers in the Central Urals. Roe are also common in Southern Russia and grow to a large size, particularly in the Government of Kiev. Here they are carefully preserved, as many as fifteen bucks being sometimes killed in a drive.

In Central and Southern Russia, owing to the absence of bogs and marshes, good sport is obtained by hunting the wolf in autumn by the combined operations of foxhounds and borzois. The Grand Duke Nicholas owns large kennels in the Government of Toula, where he hunts regularly in September and October. As his guest, my brother, Sir Everett Millais, witnessed the chase of the wolf and described it as excellent sport for all concerned except the wolf. Foxhounds draw the coverts and drive the wolf towards the huntsmen, who stand in the open, holding in leash a brace of borzois. When the game is sighted these fine dogs are slipped and an exciting chase and often a long run takes place before the wolf is rolled over and killed.

Another fine sport in Russia is the stalking of the male capercailzie when he makes his love-song in spring. This method of shooting the great grouse at the *tok* is very popular and requires considerable skill. There is also good black grouse and woodcock shooting in Russia and excellent wildfowling in the marshes of Novgorod, where geese and swans collect in great numbers in early winter.

ARCTIC REGIONS. Those who wish to add the arctic animals to their list of trophies can do so by chartering a steamer from Herr Magnus Giaver, who has had a wide experience of Arctic navigation and hunting. The cost of such an expedition is, of course, considerable, but may be reduced by two or three sportsmen sharing the expense. The principal object of the chase is the musk ox, which can only be obtained on the

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east coast of Greenland (especially along the Liverpool Coast line), and as it is not always possible to land, there is always the risk that these desirable animals may not be obtained. In many seasons the ice does not "open" between Jan Mayen and a point N.W. of Iceland, so the sportsman must be content with hunting the Polar bear, walrus and seals, which are still numerous on the outer fringe of the ice. The charter for the "Laura," an ice-ship used by Herr Giaver, is £2,890 for ten weeks, that is, from the middle of June to the end of August. On a recent visit to East Greenland the "Laura" bagged thirty Polar bears, sixteen musk ox, eight walrus and 100 seals. By going to the eastern icefields and landing on Spitzbergen and Franz Josef Land, reindeer could be obtained, but no musk ox exist there. An English ice-yacht can also be hired for six weeks (through Messrs Lumley and Dowell) for a charter of six weeks at a fee (which includes provisions) of £1,730.

Those who are not in a position to afford so great a luxury as a whole vessel can sail north in one of Francis de Gisbert's ships, which leave Tromso on June 26 and August 14 any season. These generally carry six rifles and hunt for one month. Polar bear and walrus are guaranteed for each hunter, and the charge inclusive is £175.

By those who have taken part in this form of hunting I am informed that the sport is not of a high order. Polar bears on being viewed run on the ice and then take to the water, where they are easily killed with any of the high-power rifles. The shooting of musk ox is even poorer sport, for the animals are so tame that they have only to be found. They seldom run, but wait till the hunter advances to kill them at short range. The pelage of the musk ox is very thick and the animal must be shot with a solid bullet, as a soft-nosed one is apt to open in the matted hair. Spitzbergen reindeer also have little fear of man, and afford no hunting in the proper sense of the word.

BELGIUM. There are large preserves in the forests of the Ardennes, where numbers of roe deer, wild boar and a few red deer are found. These are mostly "syndicate" shoots, in which a gun may be taken at a moderate fee. Towards the Dutch frontier are many small rabbit and hare shoots in the heath country. Partridges are also fairly numerous. Rabbits are also very plentiful in the sand-dunes of the northern coast-line, whilst the estuary of the Scheldt affords an excellent resort for wild fowl. Belgium, with its varied forests, cultivated plains, heaths and swamps, would be an excellent shooting ground but for its sporting laws,

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which are weak, and its multitude of poachers. Bands of ruffians constantly visit private estates and do not hesitate to fire at the keepers if they are obstructed.

The old Belgian stag still exists in the Crown forest of Freyr, where it is preserved, but those of the Ardennes are the descendants of a German herd imported some forty years ago.

Fallow deer have also been imported and are acclimatized on private commons and in the Royal domains.

Roe are plentiful and are best hunted by means of a couple of slow hunting dogs. Most of them are, however, shot in the annual battues. Boar are also shot by being driven by a line of beaters, the old method of driving out with boarhounds being now discontinued. Woodcock are now much scarcer than in former times, but there is good snipe shooting near the Dutch frontier and on the lowlands of Flanders. The neat little hazel-hen occurs along the course of the Semoy in Luxemburg and in the forest near the French frontier, towards Monthermé and Longwy. Capercaillie are also found in the Hautes-Ardennes.

FRANCE. In France the best sport is afforded by the numerous packs of hounds that hunt the stag, the roe, the boar, the wolf, the fox, the hare and the otter, and if we carefully study French methods of the chase with horse and hound we shall find that our friends across the Channel know quite as much, if not more, than we do of this method of the chase. The most popular hunts are those which chase the stag in the neighbourhood of Paris, at Chantilly, Villers Cotterets, Rambouillet, Compiègne and Fontainebleau. There is a beautiful pack of the old French breed of hounds that hunts the roebuck in the Landes of Bordeaux. It is known as the Virelade pack and is the property of Baron de Carayon La Tour.

There is an excellent pack of foxhounds at Pau which is conducted after the English fashion.

Before the days of the railway no European country was better stocked with game, but now, with the aid of a licence, any person is allowed to shoot on all lands when the sporting rights are not reserved by the owner. Owing to the land system France is now for the most part split up into thousands of small holdings, so that it is only the very large landowners who can reserve shooting. Practically the whole of the south and central France are overrun by a multitude of shooters, and efforts to stop them have always proved abortive. Game is slaughtered throughout the whole

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year. Only the north, a few places in Central France, the neighbourhood of Paris and Normandy hold any game.

SPAIN. A special article on this country is provided by my friend, Mr Abel Chapman.

PORTUGAL. In Portugal there are no game laws. Game belongs (theoretically) to the owners of the land if the property is enclosed, and that is indeed rare. Even the possession of a gun licence is seldom required or asked for. There are, or were, Royal deer parks where red deer and boar were till recently numerous. There are also other private parks which contain deer and boar and a few red deer and fallow are still found and shot in the unenclosed lands of Pancas, Serra de Ficalho, Serra de Penha Garcia and Monfortinho. There are also a few Spanish ibex and roe near Gerez in the mountain ranges. Woodcock, quail and bustard are also found in Portugal, and in the winter large flights of duck visit the estuary of the Tagus and the lagoons of d'Albufeira, d'El-Rei, Obidos and St Andre de Melides.

GERMANY. The law of all German states vests the shooting rights in the property of the soil, wherefore all land is preserved. The elk still exists in a wild state in the forest of Ibenhorst, East Prussia, the killing of surplus males being reserved for Royalty and its guests. The game *par excellence* of Germany is the red deer, which, although much deteriorated both in size and number, is still the most important beast of the chase. In the sixteenth and seventeenth centuries Royalty nearly succeeded in acquiring the sole right of the chase of deer, but the lawyers managed to obviate this by creating "the high and the low" chase. As an instance of the enormous stock of red deer in the Middle Ages it may be mentioned that John George II of Saxony (1656-1680) shot 43,649 head of red deer in twenty-four years, whilst his father killed 35,421, amongst them a stag weighing 61 st. 11 lb.

Stag-hunting and shooting was in the Middle Ages made an art by the Royal sportsmen, in which the minutest details were attended to with a punctiliousness incomprehensible in modern days. At that time the killing of a stag by a poacher was a greater offence than slaying a man. We need not dwell on the chase in Germany in the Middle Ages as there is already a voluminous literature on the subject.

Doubtless the stags of those days were magnificent, and German sportsmen always point to the great heads of Moritzburg as the best examples killed in Germany. I think, however, there is no proof that the largest

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specimens were ever killed in Germany. It is far more likely they came from Poland.

In modern times overstocking, curtailment of range and insufficiency of winter food have caused the same deterioration as in our own deer in Scotland; for it is only in those forests where careful management is exercised that German stags are of any size in body and horn. The best heads reach 18 lb., but few exceed 40 inches in length, so that on the whole modern German heads do not compare favourably with the best of those from Roumania, Turkey, Hungary, the Danube, and Galicia. Stags are usually shot during the rutting season by stalking.

Fallow deer are abundant in the plains of Northern Germany and Holstein and are kept in parks and forests throughout the country. In the Royal Prussian forests of Letzlingen and Shorfhaide there are about 7,000.

The roe is fairly plentiful from the Alps to the North Sea. It lives both in forests and cultivated plains, being a great favourite with German sportsmen. There they understand the chase of the roe much better than we do, and seldom kill this fine animal except by stalking or "calling" to the rifle. Few British sportsmen understand the character of the roebuck and those who think that the chase is easy had best try a season at them. Their powers of scent, sight and hearing are at least equal to those of the red deer, and were it not for their fatal fault of curiosity but few bucks would fall to the bullet. In Germany roe are not so plentiful as they are in Galicia, Hungary and Southern Austria, but in the best forests as many as six to nine have been killed in a morning's stalk. The largest numbers are to be found in the Black Forest on the estate of Prince Fürstenberg, who has told me that nine and ten bucks have often been shot in the course of a morning and evening's stalk. In the northern part of Silesia, especially in the Primkenau estate of the Duke Ernest Guenther of Holstein and in Mecklenburg roe are very abundant. The largest are killed in East Prussia, where heads have much deteriorated of recent years. The average weight of a good German roebuck is from 45 to 50 lb., but one shot by the Emperor at Proekelwitz (East Prussia) weighed 71 lb. Stalking is generally practised at dawn and sunset, when the bucks are feeding on grass lands, low crops or at the edges of woods and forests. In large estates many are shot by means of the stalking carriage. The sportsman drops off his vehicle on the reverse side when the buck is viewed and the cover in the form of a tree or bush is taken advantage of. The most common method

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[described later] of killing the roebuck is by luring it within shot by means of an artificial call which can be made to imitate the amorous cry of the female.

In the Alpine parts of Bavaria chamois are plentiful. There are numbers of chamois also all along the Tyrolese frontier, where the game is, however, constantly harassed by the owners of small peasant shoots. Numbers of Bavarian nobles and princes, such as the Prince Regent, the Duke Charles Theodor, Prince Taxis, Barons Bebenburg and Clarner Klett, Count Quadt, Prince Fugger, Duke Louis, etc., have all the best chamois ground in their hands, which for the most part are leased from Tyrolese communities. The total number of chamois in the German Alps is estimated at 5,000 to 6,000, whilst the number killed there is from 500 to 600 head.

The method of shooting chamois in these mountains is by driving and stalking, or by a kind of combination of both known as *riegeln*.

Although the German farmers will permit a good stock of roe on their grounds, they have the greatest objection to the preservation of the wild boar owing to its destructive habits. Consequently these animals are only preserved in large numbers in private enclosures reserved for shooting. There are a few large forest tracts, such as Spessart, where about 600 head exist, and they are also found wild in Brandenburg, Westphalia, the Rhine Provinces, and Alsace-Lorraine. Large preserves of wild boars are kept by the Emperor at Springe, by the King of Saxony at Moritzburg, and by Prince Stolberg at Wernigerode. Boars are generally killed by driving with dogs, by driving with beaters, or by following the spoor of a sounder in the snow. The wild boar is not protected by any close season, and they are usually shot with a smooth bore, the right barrel carrying a bullet and the left buckshot.

Large numbers of foxes are shot in Germany. At Prince Fürstenberg's estate the Emperor has killed thirty in a day. Hares, too, are very plentiful in Saxony and other parts. Bags of 1,800 to 2,000 have been made by ten or twelve guns, and the Emperor has shot 832 in one day at Neugattersleben. In large shoots an oblong rectangle is formed round the game. The whole party of shooters moves forward towards a point which is closed by the beaters.

Partridges are plentiful in certain districts, 600 having been shot by driving at Gross Strehlitz, and 280 (four guns) by shooting over dogs at Kreisewitz. Woodcock and snipe are not very plentiful. The capercaillie

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stands in high esteem, and is generally shot at call in the spring. These noble birds are numerous in the Black Forest, the Thuringian Forest, the Hartz Mountains, the Saxon State forests, the Fichtelgebirge and in the Alps of Bavaria. Blackcock are also shot at the "Spel" grounds in spring and are considered more difficult to shoot and more wary than their larger cousins.

AUSTRIA. Sport in Austria is still conducted on very much the same lines as in feudal times. The Revolution of 1848 was not carried through with the same bitterness of spirit nor with the class hatred that made the French Revolution so terrible and in a measure so lasting. The Austrian aristocracy was not denied its privileges until long after the upheaval, and even at the time there was no reign of terror or serious attack on private property. A few parks within reach of mob violence, such as the Prater, were cleared of game, but on the whole the people seemed to have behaved with a good-natured tolerance that is one of the chief features of these charming people. Any Englishman who has enjoyed the privilege of being the guest of an Austrian noble must see how well he gets on with his own peasants and how thoroughly he understands sport in the true meaning of the word.

So well, in fact, do both master and man unite in the business of sport in Austria that there is a distinct reluctance on the part of the former to lease his lands to the stranger, and this is caused not only by the fact of his own wealth and love of sport, but from some inner feeling that his own dependents may be misunderstood or not treated in a proper manner.

The stag is again the principal quarry of Austrian sportsmen and the most prized. It is stalked in the rutting season, generally in dense forests, by following the roar, and this is, as I shall presently endeavour to show, an entirely different sport to that of following the deer on the open hills of Scotland. In a few parts of Styria stags frequent the open glades and even the bare hillsides in autumn, and may be met as they return to the shelter of the forest in early morning, but this is unusual. The chase of the *Brunft-Hirsch* in the dense Austrian forests is a far finer and more difficult sport than any European hunting with the rifle except, perhaps, that of the moufflon. Also the sportsman often, if not generally, engages in the stalk alone, without the assistance of a guide or keeper. Roe stalking with the rifle is another favourite Austrian sport, and these are usually killed by *still* hunting. Shot guns are only employed to kill roe where the use of the rifle is considered dangerous. Nearly 70,000 roe are shot in

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Austria annually. In August bucks are shot to the lure of the female call. Perhaps the sport that most attracts the Austrian is that of chamois shooting in the high Alps or the timber edge. On the northern slopes of the Alps the winters are often very severe, and if food is not provided many deer would starve. Chamois, too, often suffer from foot-rot which they catch from the sheep sent up to the higher pasturages in summer. Poaching, also, is very common. The perpetual war carried on between keepers and poachers is a more serious affair than it is in England. Many lives are sacrificed in the mountain vendetta, whilst over-zealous keepers have often to be removed and sent to other shootings to save their lives. The Styrian *Jägers* are a magnificent race of men, true children of the mountains, and devoted to their masters and the chase. Speaking of chamois ground Mr Baillie-Grohman says ("Sport in Europe," pp. 32-33):

"Of stalking in the Scotch sense, i.e., of first spying out your ground and then, if necessary, creeping up over open slopes where cover is painfully scarce, they (the keepers) know little or nothing; for chamois ground does not lend itself as a rule to the employment of such tactics. Sharp ridges, deep gorges, the sides of which are dotted over with growth of *latchen*, or dwarf pine, or quite exposed grass slopes of amazing steepness; or again *Kaare*, i.e., semicircular corries set at the steepest angles and consisting of rocky debris, which can be approached only from above these form the usual scene of stalks. Compared with the limestone peaks of many parts of Tyrol or Salzburg, many of the Styrian preserves are easy ground, and any fair walker accustomed to hill-climbing can aspire to become a chamois-stalker in ground of the latter description. What generally puzzles the novice, even in easy preserves, is the fact that without practice his shooting will be wild. The man leading the way will climb his slow-looking, but really fast, pace, the long stride, firmly set, heavily-shod foot which never slips, the lungs that day after day, year after year, are accustomed to ascend slopes set at sixty degrees with the same perfect ease as were they level ground, the bare knees that leave unhampered muscles of steel, these—as well as the at first rather trying mountain air, will continue to show the importance of training when, after the first spurt of 2,000 feet, the two men come to a halt. A brow hardly clammy, lungs and heart that go their steady beat, a hand that were it called into play would show no tremor, compare favourably with the streaming pores, hard-pressed lungs,

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throbbing heart, and hands that would fail to hold the sights of the rifle on a haystack at a distance of fifty yards.

“ And such quick shots are of frequent occurrence, for when one has once reached ground frequented by chamois, any sudden turn, or the topping of ever so slight a ridge, may display a solitary old buck taking his morning ramble ere he seeks his shady couch during the hot hours of the day. Then comes the moment of supreme agitation, when the keeper, now also trembling with excitement (for he has seen at the first glance that it is *the* buck of the glen, possessor of rare 10-inch horns), will grab one by the arm and hiss, ‘ Shoot, shoot; it’s the big buck—shoot!’ into one’s ear. And shoot you do, and shoot, and shoot, until the five cartridges in the magazine of your Mannlicher or Mauser repeater have drilled holes in the air somewhere near the chamois, but, alas! never a hair of that waving, much-prized ‘beard’ (the ridge of long hair growing along the backbone of old bucks) will grace your hut *à la Tyrolese*. And, sooth to say, what else but a miracle could have guided that flat-speeding, nickel-coated bullet into that small, rapidly moving mark, for was not the hand that clutched the rifle ‘all over the place’? Far better one had lain till the buck was out of sight, and then, after a breathing spell to compose nerves and lungs, continued the stalk. If not violently alarmed, which they principally become by getting their pursuer’s wind, such solitary bucks are apt to take things easy, and come to a halt within reasonable distance, so that in such instances a carefully continued stalk may, after all, end quite satisfactorily.”

Other methods of killing chamois are by driving, which is not hard work for the shooter, or by walking with the “ movers ” and taking the chance of a shot.

Some good chamois shoots are generally to be let in Styria and cost far less than Scotch deer forests. A good ground where fifty or sixty may be shot can be taken at a rent of £400 to £500, which includes the use of a lodge and the staff of keepers.

The finest red deer in Europe are not found in Austria proper, but in Hungary, Galicia and the Danube neighbourhood. Here there are always a few magnificent trophies roaming the woods as good and often better than the great New Zealand stags that British sportsmen go so far to seek, but they are always very hard to obtain even in the more carefully preserved forests. These great stags call but little, but choose their autumn

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habitats with such care and skill that they are often unstalkable. Yet with patience and perseverance a good sportsman is sure to meet with one or two in time, for luck will one day turn in his favour and the great trophy is killed. The Danube shoots are rarely to let, but many forests in Galicia are always to be had, often at small rents. Here it is necessary for the sportsman to know both German and a little Ruthenian to ensure success, for stags are not numerous and poachers abundant. That is why these shoots are cheap. In Hungary the best shoots are seldom to let, but here stags are numerous and very well looked after.

Red deer are widely distributed over the whole of Austria and its dependencies. In nearly every part of the dual monarchy they reach fine proportions. The rutting season commences at the end of August in the lowlands and ends in Galicia and the northern mountains about the 10th of October. The weight of a good stag will be over 500 lb. galled, but these weights are often much exceeded. The best antlers range from 46 in. to 50 in., but many have been killed over 50 in. and one of 53 in. The average alone of the Bellye stags on the Danube is nearly 49 in.

Fallow deer are not indigenous to the country, but were imported at a remote date. They grow massive rather than long horns, for I saw no specimens in the Vienna Exhibition quite so good as British examples. Their record head was only 26½ in., whilst English Petworth specimens reach 29 in. and 30 in., and are better palmated.

Roe are plentiful throughout Austria wherever there is cover, and it is common to see them in numbers even in the open fields. The season for shooting opens on April 1 and ends only with the winter. In the month of April the roebuck is often stalked in the open fields by means of a carriage. In May and June he is stalked on foot, but in July and August, during the rutting season, he is called by means of the artificial lure which imitates the cry of the doe. In some parts of the country the roe is so abundant that large bags are sometimes made with the rifle. In the spring of 1899 the Archduke Francis Ferdinand, who, by the way, is one of the finest shots in Europe, killed no fewer than sixty-six selected old bucks in three days, and bags of twenty and more have often fallen to the rifle in a single day. Few Austrian roebuck horns exceed 12 in., and the largest I have seen was 13 in. Modern Austrian heads are not as fine as those of Southern Sweden.

The Sardinian moufflon was introduced at Gyemes in 1868 by Count A. Forgach and has succeeded so well as now to be regarded as one of the game animals of the country. Some fine specimens were seen at the

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Vienna Exhibition in 1910. The Cretan wild goat and the Caucasian ibex had also been recently imported.

Game, in fact, is more strictly preserved in Hungary than in any European country except Scotland. Lynx still exist in the Carpathians, where some thirty or forty are annually killed. In Hungary, Galicia, and Transylvania bears are quite common, and from 300 to 500 are killed annually. They are usually shot as the result of driving in the autumn, after the stag shooting has finished. Recently ten to twelve guns killed in three weeks twenty-eight bears in Transylvania, and another party shot twenty-two in the same season. These Austrian bears are not of large size. The largest known is one of 560 lb., but one of 150 kilos (300 lb.) is considered a fine specimen. Wolves are still plentiful in Galicia, but can scarcely be reckoned as beasts of the chase.

The wild boar is plentiful throughout Hungary and Galicia. The published returns of Hungary alone show that about 3,000 are killed annually. They are usually shot in beats or tracked by hounds in the snow.

About 400,000 hares are annually shot on the low grounds, and they are very abundant in the neighbourhood of Vienna.

Game birds include the bustard, whose flesh is highly valued, and the same interest is taken in stalking the capercaillie and the blackcock in spring as in Germany. The former are very abundant in the Carpathians and there grow to a large size.

GREECE. There is little sport in Greece, where there are no game laws and every man has a gun or rifle. Fallow deer existed until 1880, but are now practically extinct. There are a few *Capra aegagrus* of a small race on Crete and also on Anti-Milos, where they are seldom hunted owing to the difficulty of landing.

HOLLAND. Red deer are found in the province of Gelderland, mostly in the Royal Park at Loo, and there are a few roe in that and the neighbouring provinces. Black game are also seen here in small numbers and there is fair rough shooting near the coast and good wildfowling in the province of Zeeland and about the islands of the North Sea.

ITALY. There are still a few isolated places in Italy where a few big game are to be found. Bear and wolf are extinct, but chamois, wild boar and deer exist on the slopes of the Alps and Apennines and among the woods of the Tuscan Maremma. The finest preserves are the Royal ones. To the late King Victor Emmanuel, a keen sportsman, must be given the credit of saving the true Alpine ibex or steinbok (*Stambecco* of the Italians)

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from extinction. The headquarters of the shooting belonging to the present King are at "Gran Paradiso," and the hunting camps are at Valsavaranche, Ceresole and Cogne. These are situated at a height of 6,000 ft., but the game ranges rise to an altitude of 12,000 ft. The haunt of the ibex is on the summit of the mountains above the range of the chamois. The months for shooting ibex are July, August and September before heavy snow sets in.

The late King Humbert inherited a love of the chase from his father and used to hunt the ibex every season. During a fortnight's shooting he killed on an average some fifty ibex, never shooting females or young males. The game is usually driven. In the Royal Castle of Sarre are some hundreds of ibex and chamois trophies shot by King Humbert and his father.

The Royal chamois preserve is in Val del Gesso, with three hunting camps, and sport there is conducted by driving, some fifty chamois a day being killed. In the preserve near Rome at Castelporziano there are wild boar, stags, roe deer, and fallow deer.

SARDINIA. That grand little sheep, the European moufflon (*Ovis musimon*), is still fairly common in Sardinia and holds its own in spite of constant persecution. Its favourite haunts are in the mountains of Ogliastra and Barbagia, particularly on the group of Gennargentu and the Pardeliana that rise to a height of 4,000 ft. above sea level. To stalk moufflon successfully a local guide is essential, and there are also a few Sards who understand that the moufflon may be killed by honest stalking as well as by the poorer method of driving. Arrangements for hunting may be made with M. Gustav Meloni of Lanusei, who supplies outfit as well as reliable guides and horses. There are a few red and fallow deer in Sardinia as well as wild boar, and the wildfowl shooting in winter is excellent. The best season to stalk the moufflon is September and not in March, when most sportsmen go.

ROUMANIA. Bear, wolf, lynx and roe are found on the eastern slopes of the Carpathians, while in the vast northern forests of the Trotus and Bistrizza valleys a few very fine red deer exist. In the southern mountains chamois also are found. All these animals are hunted by the same methods as prevail in Austria.

TURKEY AND THE BALKAN STATES. There are a few fine stags up in the mountains about Strandja in the Balkans, and some bears also exist there and about Monastir, but information as regards game is difficult to obtain without a thorough knowledge of the people and their language.

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Wild boar and roe are numerous between the Gulf of Ismid and the Black Sea. Large numbers of boar are killed on the ground preserved by Cherif Pasha at Chaoush Chiftick in the Gulf of Ismid.

The Servian peasant is not much addicted to the chase, so there are still a certain number of boar and roe where covert exists in that country. The same animals are also fairly numerous in Southern Albania.

Sportsmen make frequent raids on the game in winter, confining their operations to Alessio and Butrinto opposite Corfu; but the whole country adjoining the seaboard has a fair amount of game, especially about the mouths of the rivers and along the course of the Skumbi to Elbassan.

BULGARIA. There are a few small bears in the mountains of Bulgaria, whilst boars and red deer are found close to Sofia and in the mountains near the Constantinople Road as far as Zlatista.

CYPRUS. A small herd, numbering roughly about 200, of the Cyprian wild sheep (*Ovis ophion*) still exists in this island. They live in the woods near the summit of the Troodos mountains, and special permission is required to shoot them. These sheep live in small herds of ten to twenty and are, like the moufflon, very difficult to stalk.

THE ELK

THE elk is one of the oldest inhabitants of Europe which survives to-day, and in appearance it has a distinctly prehistoric look. As an old bull stands for a moment gazing at the hunter amidst the gloomy pines of the Scandinavian forest he looks like some survival of bygone days, a sort of mammalian anachronism. And yet no European beast is more full of mystery or interest to those who would study its habits in its native home.

In the Pleistocene age the elk was common throughout the whole of the fir-tree area south of Finmark, east to the Urals and south to Germany. It seems to have been common in England in the early part of the warm snap between the two glacial epochs, but retreated northwards and must have been scarce about the beginning of the historic period. In the bronze age and contemporary with the Roman occupation of Britain it was fairly numerous in the South East of Scotland, and some heads in a good state of preservation have been found in Peebles and Roxburgh. At this time it was abundant in Denmark, Germany, Poland, Scandinavia and Russia, and held its own through the following centuries, except in Central Germany and Denmark, where the increasing population accounted for deforestation and the destruction of its habitat.

Strange and fabulous tales of this beast are told in the pages of Pliny, Cæsar, and Bishop Pontoppidon, who believed that the only way to kill it was to half saw through a tree on which the animal leaned when the fall would encompass its destruction. At the present day the elk is found in the marshy and forest regions of Sweden and Norway as far north as Finmark, through northern Russia, Livonia, Poland and East Prussia. In all these areas it is now holding its own, whilst in the more strictly preserved districts of North Central Norway it is rapidly increasing.

Lloyd, in his "Scandinavian Adventures," gives very interesting accounts of the enormous "skalls" or "surrounds" in which vast districts were "driven" into central points by hundreds of peasants for the entertainment of the Swedish Kings and nobles, when great numbers of elk, bear, lynxes and wolves were killed. Even to-day this mode of killing elk is practised on a small scale in North-East Russia. In Saxony the last specimen of the elk was killed in 1746 and in Silesia in 1776, but there are still a few in the forests of East Prussia and the marshes of Pinsk, in Poland, where they are strictly preserved.

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Owing to the great numbers of wolves it looked as if the elk would become an extinct animal in the Scandinavian forests at the end of the eighteenth century, and I have met many old hunters who in their youth scarcely knew the animal in a living state. Laws were passed several times, both in Sweden and Norway, by which the elk was protected all the year round, but, like most Scandinavian laws, they were never enforced. It was not until the middle of the last century that wolves began to disappear and the elk to increase from the small stock that was left. Between 1870 and 1880 elk existed in small numbers in all the south-eastern parts of Norway and in the interior of the Trondhjem Stift as far north as Nordland. My friend, Mr G. Lindesay, who knows the Scandinavian forests well, writes:

“ The improvement was maintained, and during the period 1889-93 an average of over one thousand one hundred elk were killed annually; but during the next five years the number annually accounted for was less than one thousand, and from 1899 to 1903 it did not much exceed eight hundred, the falling off being attributed to excessive hunting and a too short close season. In certain districts, moreover, an outbreak of anthrax took place, and in 1896 more than one hundred elk succumbed to this disease in the forests in the neighbourhood of Christiania alone. Now, however, thanks mainly to the appointment of a shooting season which lasts three weeks only, namely, from September 10th to the 30th, the big deer are on the whole doing well in Norway, and during the last six years about one thousand two hundred have been shot annually.

“ Between 1866 and 1883 an immense amount of timber was cut down in the picturesque valley of the Nefsen itself, and but few traces of elk remained; but when in 1885 the sound of the woodman's axe had ceased to be heard and peace once more reigned amid what was left of the forests, they returned, and may be said to have existed there in very considerable numbers for the last five-and-twenty years. To the north of Saltdal the country offers no particular attractions to elk until the extensive forests of the Maalselv and Bardo are reached, and of late traces of their presence have been observed in the first-named of these valleys. But here, although comparatively free from disturbance, they do not seem to breed. It would almost appear that within the Arctic Circle in Norway the stock of elk is maintained almost entirely by migrants from Sweden, as those seen are almost

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PLATE LXIV.



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invariably adult individuals. Singularly enough, an elk recently succeeded in making its way across from the mainland to the large island of Senjen (a little way to the south of Tromsö), where it was frequently seen during the winter. In all probability it had come down to the Norwegian coast the preceding spring with the reindeer herds belonging to the Swedish Lapps, and had then swum over the intervening channel of Gisund.

“The elk have even penetrated to Finmarken, and in the autumn of 1900 a bull was seen in the valley of the Alten, in 69deg. 59min. north latitude, the most northern spot in the world where one of these animals has been observed. On the mountains between Kautokimo and Alten, they are sometimes fallen in with, but not so frequently as in the district of Karasjok on the Upper Tana, where for the last two or three years they have become permanent residents. The Lapps do not approve of these visitors, as they frighten their reindeer. Their continued existence in these remote parts is therefore distinctly doubtful, game laws not being held in much respect by these nomads. In the valley of the Pasvig, too, elk have been seen of late, and two were killed on the Russian side of the river in 1908. In Sweden at one time, as in the sister kingdom, elk were in a fair way of being exterminated, and in many parts of the country they were for long unknown; but with the disappearance from most districts of their enemies, the wolf, the glutton and the lynx, and the appointment of greatly extended close times, they have multiplied exceedingly, and are now to be found pretty nearly everywhere except on the islands of Oland and Gothland. When black-game shooting last autumn in Scania (in the extreme south), I came across the tracks of a big bull. Over three thousand elk are now killed annually in Sweden, which speaks well for the existing stock, as with a few local exceptions the season during which they may lawfully be hunted lasts from September 1st to the 15th only.”

The best elk grounds in Norway are now to be found in North Trondhjem, though those about Guldalen and a few other more southern districts are equally good.

Where not a single elk existed thirty years ago my friend, the late Sir H. Pottinger, speaks of spying nearly eighty elk in one season at Mö, whilst Mr Alfred Gathorne Hardy and his brother Geoffrey in 1906 saw a great number of elk in Grondalen and Namdalen. I had recom-

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mended him to take Grondalen and Lassimoen, where I had had good sport in 1899, and he wrote me the following letter:

“Geoffrey and I had a wonderful time up in Namdalen. We had eleven rights and killed eight bulls between us. I got three and he killed five, including a right and left at big bulls. But I never dreamt of seeing so many elk. In the eighteen days or so that we hunted I saw sixty-two or sixty-three and Geoffrey saw fifty. Of course the majority were cows and calves, and proportionately there were very few big bulls, but it was a delightful experience to watch their habits.”

This proves that the farmers of Namdalen are alive to the value of the great deer and efficiently protect them in that district.

In 1891 the number of elk killed in Norway was 850, of which North Trondhjem contributed 303.*

The number of elk killed in Sweden was 1,782 in 1891 and 2,097 and 2,178 in the two preceding years. The practice of killing elk with the “loose-hound” has meant a constant drain on the stock of these animals in Sweden, for cows and calves are slaughtered indiscriminately so as to give encouragement to the dogs. In 1898 1,577 elk were killed in Sweden, and in the following year 1,782, made up of the following districts, which are the best in that country: Vesterbottenslän, 274; in Jemtlandslän, 356; in Vesternorrlandslän, 92; in Gefleborgslän, 58; in Kopparbergslän, 195; in Karlstadslän, 125; Arebrolän, 201; Vesteraslän, 143; Upsalälän, 62; Stockholmslän, 45; Nykopingsslän, 64; Ostergötlandslän, 74; Elfsborgslän, 41; Skaraborgslän, 43; Jonkopingslän, 9. One of the best districts is in Swedish Lapmark (Narbottenslän), where 219 elk were killed in 1898, and bulls from this part of Sweden are said to carry the best heads, but they are more numerous in Jemmland than elsewhere. In some districts the shooting season lasts a fortnight, and in others only eight days, so the prospective hunter must ascertain the correct times of hunting before proceeding to his ground. Elk are now decreasing in Sweden owing to inefficiency of protection.

A large bull elk stands from 6 ft. 6 in. to 7 ft. at the withers, weighs from 1,000 to 1,200 lb., say seventy to eighty stone clean, and usually carries a somewhat massive palmated head. When living in high open

*The average of elk killed in Norway for four quinquennial periods are: 1889-93, 1,122 elk; 1894-98, 999; 1899-1903, 839; and 1904-08, 1,225. In 1909, 1,337 elk were killed, the numbers for the different districts being: Smaalenene, 25; Akershus, 76; Hedemark, 264; Christians, 157; Buskerud, 109; Jarlsberg and Larvick, 48; Bratsberg, 115; Nedenes, 21; Lister and Mandal, 4; South Trondhjem, 149; North Trondhjem, which always shows the greatest number, 339; and Nordland, 30.

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country, as in Upper Namdalen, the horns are often reduced to long single blades without palmation.

It is not generally known, either to sportsmen or naturalists, that the finest European elk are found in the marshes of Pinsk in Poland. I have only seen two heads from this district, but they are remarkable. The best and in fact the finest European trophy of this animal is in the Museum of Lemberg and one only a little inferior is in the collection of Prince Henry of Liechtenstein in Vienna.* Perhaps the next two best were those shown at the Vienna Exhibition in 1910 respectively in the Courts of Sweden and Norway.† Both of these were remarkable trophies as fine as average New Brunswick moose. The widest head I have seen in British collections is one of 52 in. (with 18 points), owned by my friend, Mr Henry Elwes; but a 24-pointer in the collection of the late Sir Henry Pottinger‡ is about the best example in British collections, though scarcely superior to a 20-pointer of 51¾ in. span owned and shot by Captain Gerrard Ferrand. Sir Peter Walker has an unusually fine 24-pointer of 43½ in. span killed by himself in Norway. Horns over 40-inch span and carrying more than 20 points are rare.

The elk of Russia are a smaller and blacker race, and fine horns are exceedingly rare in that country. In Finland elk are increasing rapidly, but their horns are not nearly so fine as those of Norway and Sweden. In 1910 538 elk were killed in Finland (89 in Nylands Lehn, 210 in Uro and Bjomeberg's Lehn, 91 in Masa Lehn, 27 in Vleaborg's Lehn, 1 in Knopio Lehn and 120 in Tarastehns Lehn). In 1911 in the eight days allowed for the shooting season 426 were shot in Nylands Lehn alone.

As regards the East Prussian and Prussian-Lithuanian elk Mr Ernest Schaff writes ("Field," July 30, 1910):

"While red deer are distributed over a large part of the Empire, the elk is restricted to a few localities in the easternmost parts of Prussia. Usually the forest of Ibenhorst, in the district of Gumbinnen, is said to be their chief haunt; they are, however, also found in many

*A head killed by Count Stanislas Czapski, at Hanceloicze, in Poland, on Sept. 9, 1898, measures 35½ inches in length, and is larger than any Scandinavian example. I have not seen this head, but Prince Liechtenstein tells me it is the finest example killed in Europe in recent times. The points are 24 and breadth of palm 10½ inches.

†The elk head that obtained the first prize at Vienna was a Swedish one killed at Murjek in 1899. Its weight with small frontlet is 25 kilos, points 20, span 135 cm. The best Norwegian head, scarcely inferior, but not quite so massive, carried 27 points.

‡Sir Henry Pottinger wounded and lost the finest Norwegian elk he ever saw, but one of its dropped horns, which he showed me, is of remarkable size. It carries 16 points, and has a breadth of palm of 13 inches. In this elk must have been a 32-pointer with a span of 54 or 56 inches, a veritable giant.

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other Crown and private forests in the districts of Königsberg and Gumbinnen, south of the Kurisches Haff. In the former district the Frischingforst contains a good stock of elk, but the best grounds begin at the south-eastern corner of the Haff and extend northward along the shore to the mouth of the Russ. In these regions, belonging to Prussian Lithuania, the forest districts of Tawellningken and Ibenhorst are the chief resorts of elk. Tawellningken, unfortunately, is exposed to annual inundations, doing great harm to the game, while Ibenhorst, bordering on that district, is situated higher and gives more shelter. Although the stock in the different forest districts varies, the approximate number at Ibenhorst may be 100, and at Tawellningken from 60 to 70. In 1900 the number of elk in Prussia was estimated at about 300, which may well raise apprehensions as to the maintenance of this interesting species. In the Crown forests and on the estates of the aristocracy the number to be shot is precisely regulated, but among the peasants and farmers there is no great desire for the preservation of elk; moreover, this giant deer is a great temptation for any shooter or poacher, because venison, skin, and antlers can be sold at good prices. Prussian elk do not carry imposing antlers. In some districts, for instance at Ibenhorst, besides the shovel-shaped type, cylindrical antlers occur. Animals with such antlers are called *Stangelche*, in contrast with the typical *Schaufelelche*. This abnormal development must be due to individual variation."

Elk became extinct in Denmark about the same time as in the south of Scotland. There is a magnificent example and another very good one, though somewhat broken, in the museum at Copenhagen. The former bears 30 points and is equal in size to modern New Brunswick moose, although the skull is of the usual elk size.

The long prehensile upper lip of the elk show that it is a browsing animal, its food consisting chiefly of the buds, leaves and young shoots of various deciduous trees such as rowan, birch, alder and mountain willow. It also eats quantities of water plants, including the roots and leaves of water-lilies, etc. Mr Lydekker ("Deer of All Lands," p. 56) asserts that it is "unable to graze like other deer," but this is quite incorrect, for females especially often eat the coarse grass growing in swampy regions. I watched a young bull for some time so engaged in Manitoba in 1908 and have received the following note from Mr Alfred Gathorne Hardy, who is a very accurate observer.

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“After a hunt in Norway,” he writes, “I was very interested to see an elk grazing on level ground, principally because the authorities at the British Museum say that these animals cannot do so owing to the shortness of their necks. I watched a cow doing this, and afterwards she went down on her knees and grazed like a goat.”

The last-named attitude is common amongst young elk, who frequently graze on the ground. The first bull elk I ever saw and shot was engaged in eating ferns on the ground when I first saw him and I could give other instances in which elk have been seen eating grass in flat places. Neither are elk “essentially” forest-dwelling animals as Mr Lydekker asserts (*id.*, p. 56). In the upper parts of Namdalen and the Swedish frontier the best places for elk in September are the open rolling mountains, where there are only small patches of willow scrub 2 ft to 5 ft high. Here elk live quite in the open for months together in situations very similar to those affected by red deer in Scotland.

Elk are generally to be found in forests of deciduous trees interspersed with fir. They seem to affect quite small areas if undisturbed, and range over a very limited space of ground in summer and early autumn. It is common to find in early September quite a small plantation literally covered with the beds of these animals, whilst all the trees of a certain size have been broken down or their leaves and small branches destroyed. When the hunter finds such a spot and notices the large piles of fresh dung he may be sure the pair of elk, that have made this place their home for some months, are not far distant.

Elk are possessed of remarkably good powers of scent and hearing and are in consequence very difficult to approach in thick timber. Moreover, winds are always volatile and shifty in woods. However carefully the hunter creeps in, there is always the danger of meeting fluctuating airs in the last 100 yards. Elk, too, choose their resting and feeding grounds with just as much skill as other deer and are often found in some hollow or angle of a hill to which wind blows from two or more sides. In consequence the best “elking weather” is during a gale or heavy breeze, alas! so rare in the short shooting season.

During the winter, from November onwards, elk sometimes assemble in small parties of three to eight. I have heard of six bulls being seen together, but this must be rare. The snow not being so deep as in Canada, European elk do not show much disposition to “yard,” although they keep to places where the snow does not collect. From April until the

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middle of September the elk are usually found in a family party of three, an old male, a female, and the calf of the year, but at this season many of the cows go about alone with their calves, whilst old bulls have a knack of hiding themselves in the most deserted places.

About September 20 the adult bulls commence roaming in search of wives and undoubtedly travel over great distances. The most observant Scandinavian hunters assert that they seldom spend more than a week with one cow during the rutting season.

The female is supposed either to drive the male away after a week's cohabitation, or he voluntarily deserts her in search of a fresh charmer. The numerous tracks of "wandering" bulls at this season seem to support this view.

During this season the bulls attack trees with their horns, and it is common to see quite large birch and rowans stripped of their bark by some male who has tested the strength of his antlers. They wallow much and when a female is found form "elk-pits," which are small dark cavities in the ground, where they deposit their urine, which at this season has a pungent odour. There is much difference of opinion as to the extent that elk "call" in Scandinavia, but there is no doubt that both male and female utter exactly the same grunts and roars as they do in Canada. They seem, however, to be far more silent in Europe, though there is little doubt that an experienced "caller" from New Brunswick could lure up Scandinavian bulls within shot. This is, moreover, proved by the fact that elk bulls are regularly shot in Russia by means of calling with a bark horn.

One day I came accidentally between a cow and her calf, and the former uttered two loud barks, something like the cry of a red deer hind, only much louder. On another occasion I heard a bull make a loud grunt, quite the same cry as I have heard in British Columbia.

Like all the other northern deer the bull elk eats little or nothing during the rutting season and so rapidly loses flesh. By the last week in October the meat has a disagreeable musky taste, but is not so offensive as reindeer and red deer at this season. The horns are usually shed in January and are seldom freed from velvet until the middle of September. I have, however, seen a head quite clean on September 2, though this must be rare.

When alarmed elk hold the ears in a very upright position above the horns. They often make one big leap as they spring in retreat. If much frightened they will gallop for a few yards, but the usual pace is a long slinging trot which goes on hour after hour up or down hill to the despair

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of the pursuer. As a Lapp hunter once remarked, "You must hunt the elk with your head, not your legs. His legs are much longer than yours." When chased by a dog the male seldom goes far but resorts to frequent circlings and halts to throw off his pursuers and will often come to bay in less than a mile. But if this "bay" is once broken and the quarry has seen the hunters the elk will sometimes travel for immense distances without another halt.

When pursued with the "bind-hund" elk are not much frightened unless they have received the direct wind from man, but will only retreat for a mile or so and then return parallel to their tracks to try and get the wind of their pursuers or to return to their usual haunts. It is often, therefore, possible to find the same elk in the same valley day after day, although it is not good policy to harass him unduly. In the following pages I have endeavoured to give some of the charm and excitement of elk-hunting with the "bind-hund." It is one of the finest of European sports and an ideal one for the young hunter who has to learn his woodcraft. At the present time the following are hunting seasons for elk in Scandinavia.

Norway, Sept. 10 to 30; Sweden, Sept. 1 to 15 throughout the kingdom with the exception of the Royal forests of Halle and Hunneberg and Örnön, in Stockholm's Lan, where elk-hunting is permitted the whole of September. In Jemtland's, Vesternorrland's, Vesterbotten's, Jönköping's, and Kronoberg's Lan, as well as the northern part of Kalmar, elk shooting is permitted only from Sept. 9 to 15. Finland, bull elk during the first eight days of September.

There is no doubt that the elk was used as a draught animal in Norway, Sweden and Finland in early times. Ancient literature and the stone carvings of Hästskotjarn and Skärvängen (Jemtland) and other places bear evidence of this. At the present day elk are occasionally broken in and trained to harness, but they are not so satisfactory as reindeer, being sluggish and obstinate. The fashion for keeping tame moose became recently such a nuisance in the village of Kenora (Manitoba) that a law had to be passed forbidding their possession except in proper enclosures. Moose or elk have never been a success in confinement in England. Even one which lived for some years in the park at Woburn never looked happy. Nor have experiments with moose in the New York Zoological Park been successful. Yet I think that if they could be acclimatized and released in some suitable area in Scotland they would flourish. I have never seen

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any animals look so fit or have such a noble appearance as the moose in the national park at Banff, Alberta.

The greatest detriment to a stock of elk or reindeer in Norway is the advent of a herd of tame reindeer to any district. When this occurs all the elk immediately leave it, whilst the wild reindeer join the tame ones and are shot. Wolves, too, are far from being extinct in the northern provinces where elk are found, and do a great deal of damage to the young calves, whilst they kill a certain number of adults during the time of deep snow. There is also a bad law in force in Norway by which the ripa and elk rights are let separately. This gives ample opportunities for poaching on the part of local youths whom I have met on the fjelds armed with Krag-Jorgensen rifles and who stated they were merely shooting grouse and hares. Elk are very easily poached, and as many of the best elk grounds are isolated, it is not difficult to carry away a carcass without detection. It is well, too, that the prospective elk hunter should know something of the farmers with whom he is dealing, for many of them will, if he is unsuccessful, employ others to hunt during his temporary absence. The Norse farmer wants meat for winter consumption, and is not as a rule particular how he gets it.

Albino and partially white varieties of the elk are not very rare. I have seen five or six in collections. A pure white elk skin from Narke in Sweden was shown recently at the Baltic Exhibition in Malmo.

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FAR away up at the head waters of the Namsen lies a tangled chain of mountains, culminating in the great range which forms the natural barrier and watershed between the countries of Norway and Sweden; and here in this wilderness of flood and fell Nature has provided a perfect home for the wild animals by which it is inhabited. Great forests but seldom disturbed save by the woodcutter's axe afford a secure retreat for the largest and in many respects the most interesting of European game, the Scandinavian elk. Rushing streams intersect every valley, and little lakes and tarns by the side of which the great deer come to browse dot the surface of the upland corries. Above the timber the stunted birch region, much resorted to by elk in dry seasons, extends over a far greater area than in other parts of Norway, and consequently the hunter who follows the chase in these semi-arctic regions has the additional pleasure of true open-ground stalking when still weather has for the nonce put a stop to hunting in the timber.

Amongst English sportsmen the prevalent idea is that the elk is nearly always hunted and killed in or about the forests by means of the *los*, or *bindhund*. So it is in nearly every part of Norway and Sweden; but that he may be spied, stalked, and shot after the manner of other hill-deer which live almost entirely in open ground I know from personal experience. Elk, especially old bulls, are as prone to resort to the open fjelds as any other member of their genus, provided the weather be fine and still, the favourite food within fairly easy reach, and the high mountains to which they resort undisturbed by movements of flocks or trekking reindeer. Out of five bulls killed by myself during 1899 four were spied and shot in perfectly open ground above the great forests.

My friend, Mr E. N. Buxton, in his excellent book, "Short Stalks," seems surprised that the Scandinavian elk has received so little attention at the hands of that ubiquitous creature, the British sportsman. The reasons are not, I think, far to seek. There are very few really first-class elk grounds in either Sweden or Norway, and, owing to the subdivision of these grounds amongst various owners, it is not easy to secure so large a tract of country as is necessary for the full enjoyment of the sport. To say nothing, too, of the hard work of the chase and the patience necessary to success, really good local hunters are very scarce, and the

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services of a good dog can seldom be obtained. The lack of trustworthy agents through whom hunters and dogs, as well as the right of hunting, may be secured, is also another obstacle in the way of the sportsman, who, however active and determined, can do nothing without these aids.

Seven or eight years ago Namdalen, Sondredalen, and the adjacent valleys constituted probably the best elk ground in Norway, though it may not have been superior to Mo, the great elk forest to the north of Namsos, practically created by Colonel Walker and the late Sir Henry Pottinger. A short time ago some few Englishmen hunted the best of these grounds and enjoyed excellent sport, but now a great part of this tract of country has fallen into the hands of one agent—I am sorry to say—an unscrupulous fellow who lets the best of the ground to German sportsmen, whilst the trashy bits are offered at high rents to others who, in ignorance of his wily ways, are too often led to take them. This gentleman met me at Namsos on my arrival, and was not too well pleased when he discovered that, having been previously warned of this little trick by two old sportsmen who knew all about it, I had taken care to secure some good rights in Namdalen direct from the farmer. Knowing now the sort of man I had to deal with, I was not altogether surprised when, some three weeks later, I heard through the telephone (a great institution in Norway) that he had sent up a German (who had paid heavily for his rights) to hunt my ground. Fortunately for me, the farmer was a man of mettle. He sent for the solitary policeman, who inspired terror and respect over a country half as big as Ireland, and he himself sat on the march with his rifle, declaring he would shoot the poachers if they dared to cross his ground. This settled the matter. I got what I had bargained for, and the German (who was not to blame) wrote me a very nice letter, explaining how he had been misled. What he said to the agent on his return I can only guess. It may be hoped that the rascal was shown up in the German papers, in which he so constantly advertised.

With the invasion of the Germans the sport of elk hunting has rapidly deteriorated in quality. All the smaller holdings, which were formerly more or less undisturbed, are now annually tenanted, and the elk, especially the cows, get no peace. Whether it is that Germany sends her most indifferent sportsmen to try their 'prentice hands on the poor old elk I do not know, but (with one single exception) a more unlikely-looking lot that assembled at the Namsos hotels at the end of the season I have never yet seen. Ye gods! what tales of the chase and what hairbreadth escapes

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from bears did they not tell! Their mode of hunting, too, they gloried in: the top of a hill, two rifles, two or three bottles of beer, a copious commissariat (including unlimited cigars) and some energetic Norwegians to drive the woods, seemed to be the chief essentials of their happiness. In the season of 1899 twenty-five cow elk and two young bulls were all that fell to the rifles of fifteen German hunters; but it is only fair to add that another German (a genuine sportsman) killed five bulls, two of them very good ones. He told me that he got them all on the high ground in Sondredalen, above the timber line.

A pleasant voyage of three days on the "Tasso" brings the traveller to the pretty little northern town of Trondhjem, where the principal sights of the place are Mr Bruhn's fur store and the cathedral. When I visited the latter there were some hundreds of people all listening to a poor frightened little girl of fourteen saying her catechism. As I stood in the central aisle, the service, I am sorry to say, impressed me less than the marvellous salvatory powers of two flaxen-haired Vikings who sat in a large pew on my left and distributed their favours with an accuracy of aim that could only have been acquired by long and constant practice. By and by one of them, a kindly looking old man, caught my eye fixed upon him, and with great politeness offered me a seat between himself and his friend, but as the situation did not strike me as desirable, I declined and fled from the place.

In Scotland, it would seem, this objectionable habit is not altogether unknown. Witness what happened at one of Lord Rosebery's meetings in the north some years ago, as reported in the papers of the day. While the audience were sitting spellbound under the influence of his lordship's peroration a drop of moisture, detaching itself from the glass roof of the building, fell with a splash on to the bald head of an old Scotch reporter, who, unable to control his feelings, demanded aloud, "Wha's that sputtin'?" The effect was electrical. The audience were so convulsed with laughter that it was some time before the noble lord could proceed.

After landing at Namsos, two days later, my friend, Mr G. E. Lodge, and I drove in one day some seventy miles up the beautiful Namsen Valley to Fiskum Foss, where there is a magnificent waterfall. Here my hunter, Kristian Fiskum, came out to meet me. He introduced me to his wife and children and, last but not least, to his excellent elk dog "Bismark."

I had been told that Kristian was the best hunter in the valley, and this I found to be correct, for he was not only a first-class man at the dog

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work but a real good fellow, indefatigable, keen and self-reliant—three of the most essential qualities in a hunter—good-natured, too, modest and absolutely trustworthy. He spoke English excellently and managed my accounts so well that I had no worry with the constant disbursement of small sums. To my brother sportsmen who think of hunting in Upper Namdalen I would say by all means secure his services if you can. You cannot do better.

His dog Bismark was worthy of the name he bore—a really “great” dog, devoted to his work and so familiar in every point of it that rarely indeed did he make a mistake. When he did he had reason to regret it. And here I may say that elk dogs educated like him, to the utmost limit of their capacity, are gifted beyond any other in the art of speaking without words. A raising of the nose and tossing it from side to side, a quick snuffle in a footprint, a sudden cocking of the ears, a whispered whine, an indifferent yawn, or a straining throat rattle, tells the hunter exactly what he wants to know as to the movements of the game in front.

Kristian cheered me with the opinion that I had secured some really good ground. The high ground, he said, was excellent—all except Tunsdalen, which had been ravaged and was now tenanted by wolves—whilst the forest rights above Lassimoen, some twenty-five miles up the river, were about the best in the Namsen Valley. Here then—at Lassimoen—we decided to start operations, and the next morning saw us driving up the river, alternately passing through green meadows and dense pine forests.

Leaving my friend to proceed to the Admiral’s house in Tunsdalen, where he was to collect birds and shoot ryper, Kristian and I crossed the Namsen in a boat and were soon making ourselves at home in the comfortable farmhouse where I intended to spend a week.

This was the opening day (September 1), so, after a hasty lunch, we took the dog and went out to inspect the ground, a big forest through the low and swampy glades of which we had hardly walked half a mile when Bismark, catching a taint in the air, began running from side to side, the better to test its quality. In a few minutes he drew us to the edge of a small sheet of water just as a light breeze sprung up and gave him the scent direct from the elk, for elk it was. “If this will only last,” whispered Kristian excitedly, “we shall soon see what is in front.” Hardly, however, was the dog pulled off the direct wind, for we had decided to approach by a flanking movement, than the wind dropped and we felt that at every step we took through the branch-bestrewn forest we were making more

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and more noise. In these great silent aisles there is no help for it, creep along as cautiously as you may. When no wind is passing, the smallest sound is magnified a hundred times, and the meaning of a cracking twig is never misunderstood by that stupid-looking old head that is generally watching for you. In this instance the elk (a big cow and calf) waited till we were within two hundred yards and then trotted swiftly away. "Skroemt," said my hunter mournfully as we came on the deeply imprinted spoor; but I did not share his dejection, for though I should like to have seen the old lady, I should not have fired at her.

During the next few days I became only too painfully familiar with this word "Skroemt" and all it meant. Every day we toiled up and down rugged slopes, bestrewn with fallen timber, clambered over heart-breaking windfalls, searched the high fjelds, or slept on the hard floor of sæters when working the distant corries, but to no purpose. There was not a breath of wind, and that means as a rule failure. The game is "Skroemt" and off before you can raise your rifle. Three times did we succeed in getting within forty yards of bull elk, and yet not once was there a chance of seeing the retreating form; we heard the elk make his first spring, and then all was silence again.

One day we almost achieved a shot. Working in the far ground—a splendidly open country covered with belts of timber, with here and there big and small lakes—we had seen nothing but one small cow elk. In the afternoon, as we crossed the high ridge that separates the Namsen from one of its collateral branches, we suddenly came on some perfectly fresh spoor and sign of what on close examination proved to be that of a warrantable bull, though not a very big one. Bismark was thoroughly interested, and after burying his nose in one of the fresh wet footprints he started off with ears sharply pricked, eyes burning, and tail at a businesslike cock. The trail led along the upper edge of the timber line, now just within the borders of the wood and now for half a mile right out in the open; and as the scent became stronger, we hoped every moment that we were in for a piece of good fortune and should find the bull wandering across some open stretch. After hunting about for fully an hour Bismark showed plainly that we were getting exceedingly near the game, and as we approached a clump of birch about seven feet high—the only spot within many hundreds of yards that could have held an elk—I saw the bushes shake. "Now," thought I, "he must give me a shot," but again this was denied me. The elk had chosen his lying-ground with extraordinary precaution—right on

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top of a little chasm down which ran a steep path—and seeing us as we advanced he plunged at one stride into the dark recesses of the forest and was lost to sight. I felt sad that night and tossed about uneasily amidst the mice and hay of a neighbouring sæter. The next day, however, was an exciting one, for an account of which I turn to my journal.

September 4th. Another far too glorious morning. No wind again, and little prospect of it. We started at six, rowing across a large and exquisitely beautiful lake, accompanied by Anton the farmer, who acted as our food carrier. Running into the lake there is a great peninsula which always holds elk, so here we landed, and Anton, beating the woods, succeeded in driving towards me a big cow that came out and passed close to us, but no bull showed up.

Other game, however, was in store for us. I had always been led to suppose that to see and shoot a bear in Norway is one of the rarest pieces of good luck that can fall to the lot of the hunter, and this impression was confirmed by the experience of the two oldest English sportsmen who, after using the rifle in Norway for the past twenty-five years, had each secured only one. That I might meet with one seemed therefore so unlikely that I never even asked if there were bears in the neighbourhood. Now, however, as we passed along the edge of the timber line above the main valley and were traversing some wonderful blaeberry patches thoughts of Bruin forced themselves upon my mind. A great ant-heap had been ruthlessly torn to pieces by some very recent visitor, and beside it I noticed, to my delight, the fresh droppings, not ten minutes old, of a large bear. "We must come and watch here in the evening," said Kristian as soon as he saw the place. But where was the bear at this moment? I advanced down a steep spur which commanded a fine view of the wood below, followed by Kristian, who, passing me on the way, kept a look-out ahead while I examined a great windfall of trees that lay amidst the rocks immediately to my right. Suddenly the quick passage of some heavy body over a slanting rowan tree attracted me. The tree shook violently for a moment, and I knew that if the creature were an elk I must have seen it; so turning hurriedly to my hunter I made a sign for him to give me my Paradox. At that instant the bear (for, of course, it was Mr Bruin) stood straight up on his hind legs, and in the excitement of the moment Kristian, forgetful of my orders to the contrary, raised his rifle and fired. The shot told. With a loud roar the brute stumbled and fell, but almost immediately recovered himself and was in the act of scrambling over a great fallen tree when I fired. To

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my great delight he turned completely over like a shot rabbit, and, roaring and moaning, fell headlong some twenty feet down the hill. Kristian was now simply wild with excitement and mad to go on, so I sat down and opened the vials of my wrath upon him for firing just as I was actually pressing the trigger of my own rifle. After changing rifles and giving the bear five minutes' grace to feel the effect of his wounds, we commenced the descent of the hill, which was here of the steepest and roughest description.

At first I thought we should find him at once, for he had slipped, slid and rolled badly during the first 200 yards; but his vitality was quite amazing. Though the great jumble of moss and logs through which we passed was everywhere stained with his blood, the further we went the further off he seemed to be, and we had nearly broken our legs half a dozen times ere we emerged upon the open swamp at the foot of the hill.

Up to this point I had walked in front, as the track was easy to follow, and I held the more powerful rifle in case of need, but now the ground became harder and drier and the spoor very difficult to make out; so "Bismark" was brought to the front and invited to help us. To my intense disappointment, however, he showed signs of uneasiness and absolutely refused to have anything to do with the business. Kristian then took the dog in hand, showing his thorough knowledge of dog character. For ten minutes he talked gently to Bismark, he cajoled, he flattered, he caressed, he bamboozled, and finally succeeded in awakening a lively interest where formerly there was none at all, making the dog understand that here was an animal which he certainly had never seen before, but which, nevertheless, his master earnestly desired him to follow. It was a really fine performance on the hunter's part. The elk-hound presently began to snuff the tracks, and led us along slowly—oh! so slowly—all the time with his ears back and occasional backward glances at his master, as much as to say, "Well, I am doing this under protest, and if I didn't love you very much, I would not do it at all."

By and by he began to cock his ears (a good sign) and the pace increased to a fast walk. We were picking up the broken thread again, and everything was going on swimmingly when we suddenly came on a fresh cow-elk track, whereupon Bismark woke up and immediately rushed along it, only to be immediately switched off by his master. He just gave us one look, as much as to say, "Well, of all the idiots—" and grumpily resumed the bear spoor.

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At last, after a run of eight miles on irregular lines towards Lassimoen, we found ourselves gaining on the bear, but with our dog rapidly tiring. It was now 1.30, and rain was falling in torrents, but, happy thought! within a mile of us lived our friend farmer Anton, whose dog had distinguished himself at a bear-hunt two years ago. We must borrow it, if possible, so with this view Kristian crossed the river while I sat down to lunch, impatiently awaiting his return. In about an hour he came back accompanied by Anton and a clever-looking black dog; upon which we resumed the chase. This took us back towards the rough hills, at the foot of which we found that the hunted beast, unable to face the ascent, had kept along just inside the timber. We could see where he had fallen, and again where he had lain down, both places being marked with much blood. At last, after going six or seven miles further, we came to a thick clump of raspberry bushes, which the bear, after a short rest, had evidently only just left. The dogs were now for the first time madly keen to get at him, so at the risk of spoiling them they were loosed to bay the bear, and off they went at a tearing pace, with us scrambling after them as fast as we could.

This part of the chase was witnessed by one of the Lynsetmo farmers, who told us that, while working down by the river, he had seen something of the chase, the dogs closing in upon the bear, who, rushing at them with a roar, nearly caught the black dog. And now, dead beat as we were, after our long run of twenty miles or thereabouts, it was quite a relief to us to see both dogs coming back in our direction safe and sound, but evidently extremely frightened. Their coats were bristling, and it was some time before they could be induced to resume the chase. We continued on to our boundary, however, and then crossed a big tributary of the Namsen, getting a heavy wetting in so doing; but this mattered little, as we were already soaked to the skin. Darkness now came on and there was nothing for it but to abandon the hunt for the night.

Oh! that weary walk homewards: I shall never forget it. Through nine long miles of sodden swamp we plodded our way, halting again and again from sheer exhaustion. The last two miles in the dark amid pouring rain were a very purgatory to both Kristian and myself, who had but one bright thought between us—that, dead or alive, the bear must presently fall into our hands.

Next morning at five we had our coffee and were off again, this time driving in a carriole up the southern bank of the river to a spot almost opposite that where we had abandoned the chase on the previous evening.



NORWEGIAN ELK, from Mo, N. Trondhjem, 1890.
Span 50 inches.

Shot by Col. Walker.

PLATE LXV.

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The rain, however, had been so heavy as to wash away almost every trace of our quarry, so after an hour's slow tracking, in which we made only about half a mile, we gave up the pursuit as hopeless and hastened down to Lynsetmo to take counsel with the farmer who, sooner or later, would probably come across our game. The bear, I felt sure, was so badly wounded that, once he got stiff, he would travel no further, and then, when snow came, our agricultural friend would find him.

And this was exactly what happened. At the end of September there was a heavy fall of snow, and the farmer's son, going to the furthest end of our track, found the poor beast in a hopeless condition and unable to rise. He rushed home to arouse the neighbours with their dogs, but when a heavily armed force arrived to give the *coup de grâce* poor Bruin had given up the struggle and was dead. Kristian's shot, passing through the top of the shoulder blades, could not, I think, have permanently disabled the beast, but the wounds inflicted by the Mannlicher bullet expanding in the stomach had done their deadly work, slowly but surely. Excellent as the Mannlicher is for all soft-skinned animals it is not the weapon for bear, and it was really a piece of luck that I eventually recovered the skin and skull which Kristian sent to me.

From Lynsetmo, a walk of about fourteen miles brought us to the house of Admiral — in Grondalen (a place I had taken for hunting and fishing), and well pleased I was with all I saw there—a delightful log-house about thirty feet above the Inns river, and a charming lake in which the trout were up for the afternoon rise; while indoors Kristian's wife, who had gone on before us, had made every arrangement for our comfort. Getting out my rod, I soon had three beauties (1½ lb., 1 lb., and ¾ lb.) lying on the bank; so when my friend, Mr Lodge, who was to meet me here, returned from the chase, we had a grand supper of fish and ryper, enlivened with a recital of his adventures as well as my own.

In the evening I walked up to a big shoulder above the lake for just a peep at my new hunting ground; and very "gamey" it looked. Above me rose a great rock-scarred range of mountains towering up to a height of 3,000 ft. and more or less clothed with timber from base to summit, while above and beyond this dense forest were lovely little bays and corries of birch, just turning yellow in the autumn sun. Here, too, grew masses of the mountain salix, the favourite food of the elk—a sure indication of the fact that but a short time ago this quiet secluded valley had been one of the best retreats for elk in the north.

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Perhaps they might be found in the neighbouring valley of Inns? It seemed likely; but, to make sure, I despatched a local man, Elias Lillefeld, to examine and report on the ground. He was a fine, handsome fellow of medium height, extremely good-natured and strong as an ox, and for three days he ranged the valley according to my orders; but, alas! not a single elk could he see, nor any sign of one. Wolves had been there. For the last three years they had played havoc with the elk on the Veffsen where they had lived and bred in security, and having created a scarcity in the valley, they crossed the mountains into Tunsdalen, where for the last two summers two packs at least had been diligently hunting. Bad news, this, and very disappointing, as I had heard nothing of these depredations before; but as the birch region at the further end of the valley had not been explored by Elias, I determined, after a day's rest, to take a walk up there, however poor the chance of a find.

The morning of September 7 was one of the loveliest imaginable, as Kristian and I and the faithful Bismark set forth on our expedition. Under a brilliant sun the dew-drops, falling on to a carpet of multifarious mosses and berries, glistened with a myriad hues, and as we worked up the mountain side a good breeze promised well for Bismark, if perchance anything worthy of his attention should be found. But all to no purpose. No fresh spoor was to be seen, except that of wolf, and they had made regular paths up and down the hills where the packs had passed to and from a carcass. We were in despair, and after a while Bismark, too, became disgusted, retreated behind his master, and wished to know why we had brought him out on such a fool's errand.

After about two hours' climbing we found ourselves above the timber line on a jutting spur, from which a glorious view could be obtained not only of the valley itself but of the serried banks of mountains that culminate in a great snowy chain to the north. On these (so Kristian told me) the Laps were now living with their reindeer for the summer. I plied the glass for ten minutes, carefully scrutinizing the big birch corries to my left. Nothing there; then on the next headland, a still more likely place. This likewise revealed no sign of life, so again we crossed the bowl of a corrie with its rushing torrent, and proceeded rapidly to the next spying point.

As we were in the act of rounding the turn I had to remonstrate with Kristian for the pace at which he was travelling—a very common fault amongst Norwegian hunters when in open ground. He was tearing along

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without any regard to the ground immediately in front, and on looking over his shoulder an interesting object right ahead caught my eye. I could not make out exactly what it was; but, on a sign from me, we slowly sank to the earth together, and in another moment a fine bull elk, the first I had seen, was disclosed to our view. The great beast was about 400 yards away, standing below a patch of snow, right in the open, where he was feeding quietly on ferns. As I put the glass on him for a minute, I saw him draw in great mouthfuls with his prehensile upper lip, and so absorbed was he in this business that, to my surprise, he never raised his head and looked about as he chewed, as other deer would have done, but just kept his nose on the ground, grubbing away as if there was nothing else in the world worth thinking about. This foreboded an easy victory, so, telling Kristian to lie perfectly still, I scrambled forward about twenty yards down hill, keeping my eye on the elk meanwhile. Here I got cover and lost no time in shortening the distance between myself and the quarry, a good wind favouring my advance. On looking up again over a slight rise which I had previously marked, I saw the elk standing in exactly the same position as before. Though still about 200 yards away, he looked such a huge beast that I thought he was quite near enough; so I at once lay down, and fired. He winced perceptibly to the shot, but only raised his head, and I immediately fired again—this time with good effect, for he staggered down the hill for a few yards, bleeding from the mouth. For a moment he seemed to recover: after trotting slowly down the hill towards me into a little cup of the ground he began to ascend a gentle rise; and then, turning off at some twenty yards distant offered a broadside which enabled me to give him a shot through the heart. Then all was soon over; a few convulsive plunges, and he subsided slowly to the ground, breathing his last as I rushed up. What a prize! I had never before slain so large a beast. With a little Mannlicher bullet, too! A grand climax to the excitement of this, my first, chase after elk.

That I had nearly made a mess of the first shot was clear enough, for instead of his shoulder I had hit him in the spine without smashing it, but the second shot was a fatal one, for the beast must have soon given in even if the third had not been fired.

On closer inspection the bull proved to be a veritable patriarch—a very rare thing to secure in Norway or any other country where deer are constantly pursued by men and beasts bent on their destruction. He was evidently “going back,” for his head was an extremely poor one; he had,

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too, no less than three old bullet wounds, whilst both the hind legs were heavily scored by recent attacks of wolves. How many hairbreadth escapes could the old fellow have told of had he the power of speech! The carcass was so large that we had great difficulty in turning it over for the gralloch; but when this was done I made some sketches of the animal while Bismark gorged himself with his share of the plunder. We then started for home laden with some of the best parts of the meat, and later in the day Elias fetched home the head and hung up the skin to dry.

There is little doubt that this old bull had only just come into the valley, having probably been scared out of the Trones ground, and was quite unaware that his new retreat was infested with wolves. Old hunters say that when an elk comes into new ground he ranges it thoroughly to ascertain if other elk have been there recently and whether the conditions of life are safe before settling down; but Kristian, who had studied the habits of the animals closely for many years, would have it that the elk was the laziest as well as the most cunning of animals, and therefore unlikely to busy himself in this way. He assured me that a pair of elk, having selected a good retreat with abundance of their favourite food at hand, would remain in the same spot for months at a time, never going a greater distance than 300 yards in any direction. In the previous year he was informed by a farmer below Fiskum of the whereabouts of two elk, a bull and a cow, which had taken up their abode on a high ridge, a spot indicated by a small pool round which grew masses of birch, rowan and salix. He went there on the last day of the season, for he had been away hunting in the north, and found both the elk and shot them. The ground round the pool he described as being like a cattle-pen, all broken down with the constant tread of the two elk. The spoor extended to a distance of about 300 yards in every direction, beyond which it suddenly ceased, only a few old footprints being visible outside. That the animals lived in this confined area, as they must have done, during the whole of the summer, would seem to indicate a certain degree of cunning as well as a love of seclusion, such as is shown in their well-known winter habit commonly called "yarding."

The following day, after skinning the head, we all marched over the mountain down into the Grondals valley, on the way to which a diversion was caused by the dog getting on to the fresh spoor of a small bear, which, however, went far too fast for us and easily kept out of sight. Next morning I was off to the wild high ground up beyond the Grondals Lake, and this

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being a typical day's elk hunting, some details, as gathered from my diary, may, I think, be of interest.

September 9. Just home after the hardest day I ever had in my life. All day on high ground amidst rock and birch scrub. Starting at 6 a.m., we made our way through a straggling forest of old trees up towards the Grondals Lake, to all appearance a perfect ground. Every moment I expected to see or spy an elk, as there was a fine amount of fresh spoor. When about ten miles from home we sat on a jutting knoll and gave Bismark the wind of a long rising corrie covered with stunted birch and bounded at the far end by high rocks over which a small waterfall cast its spray to the sun. After a rest of about five minutes, whilst I spied, Bismark became interested and anxious to draw on dead up wind, and on getting his wish off he bounded, dragging Kristian along with him in a way that we knew meant business. The further we advanced, the more keen the dog became, till at last his master wisely counselled prudence, and we crawled up to another knoll to spy ahead. Our heads were hardly over the top when Elias pointed with his finger, whispering, "There he is! and a bull, too, by his neck." All was now excitement, for the elk was walking quickly down the knoll, and, as I got my telescope fixed, he plunged into some thick birch scrub and lay down out of sight.

Anticipating a long wait, I got out my lunch and began to eat, reflecting the while on the marvellous nose-power that had enabled the little dog to directly draw and point his game at the distance of one mile. And now the following conversation ensued between Kristian and myself—interesting, perhaps, as an illustration of the different views of deer-stalkers as to the intelligence of their quarry, whether in Norway, or in other parts of the world.

K. "Now, are you not going to start?"

M. "No—what for?"

K. "Why, to shoot him, of course."

M. "Oh, yes, I will do that two or three hours hence, when he gets up. We don't see a bull elk every day, and I am going to make a certainty of this one."

K. "Oh, but he will stay there all right, and you will get him for certain, as the wind is good."

M. "That would be quite right if he lay in the open. I should then go in at once, but no hunter in my country would dream of ploughing through all those sticks and bushes, hoping that the elk would be so deaf as not to

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hear him. Besides, worst of all, we could not possibly see him until we were within twenty yards, and no deer would stand 'at gaze' so close as that; he would spring from his bed, and we should never see him again."

"Well," said Kristian doggedly, "I know elk; he is an utter fool when the wind is like this, and if you would come now you would see we should have him."

I would not budge, however, till the elk got up and moved into a better position, and for the present, though I used my glass from various points to get a better view, nothing beyond a grey spot could I make out. In the meantime I sent Kristian high up the mountain to my left, to a point which I knew must command a view of the whole valley and its seven-foot birches, and after about an hour's absence he returned with the intelligence that the beast was a four-year-old bull with a poor head.

Two hours passed away; then a third, and I was chilled to the bone with the bitter wind now sweeping off the snows—very impatient, too, for it seemed as if the beast was never going to rise again in this world, as, in fact, he never did. At last, much against my better judgment, Kristian overcame my scruples, and we started towards the elk, now some 400 yards distant. During the subsequent stalk up the bed of the stream and through the birch-copse I must have called myself at least twenty times an ass of the first magnitude and more than once I all but determined to return and wait, for I felt all the time that in transgressing the laws of venery where deer are concerned I was only courting disaster. We crept on, however, win or lose, until I knew that we must be within 100 yards of our quarry, and then, taking a line to follow through the bushes, I parted the opposing twigs as if my life depended upon doing so without noise. At last I reached the rock which from our spying-point seemed almost to touch the quarry, and to my great relief I caught sight of a long grey back lying on the ground before me, barely twenty yards away. Raising the rifle to my shoulder, I pressed the trigger, and without a move my second elk lay stone dead.

"Did not I tell you what a fool he is sometimes?" remarked Kristian, with a delighted smile as he beckoned to Elias to join us. He certainly did, and I was not in the least disposed to lessen his joy at the verification of his words; but, though conscious that from the Norwegian point of view arguments about *other* deer did not apply, I could not refrain from saying, "There is no other deer on earth that would have allowed such a liberty."

After the gralloch down by the waterside, we were soon on the go again,

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tramping right over the far range down to Lake Nesau, where the hunters had never been before. Here I became tired, and as we had a walk of at least sixteen miles before us, much of it through swampy ground, I reserved what strength was left to me for the journey homewards, arriving home absolutely dead beat at 9 p.m. Elk hunting is hard work.

Kristian had an idea, which to one who has toiled after him for many weary days seems purely imaginary, that he was very delicate. After taking a friend of mine at express speed up a Norwegian mountain without one stop at five miles an hour, he sat down on the top with a pathetic sigh and remarked:

“ Ah, well, alas, I am not strong.”

September 10th. Rest at home to-day. Kristian in bed all day, thank goodness! I believe he tried to kill me yesterday. We certainly walked over forty English miles at the lowest computation.

In the meanwhile my friend, Mr Lodge, had been collecting birds in the Grondals Valley, where a few interesting species were to be found. He had good sport amongst the dal and the fjeld ryper, which were plentiful; but wild birds of the forest and the mountain were difficult to obtain. Occasionally he caught a glimpse of a goshawk as he dashed through the trees, or a merlin or sparrowhawk hunting the birch scrub for fieldfares. Rough-legged buzzards, too, were fairly numerous, considering the iniquitous tax upon their heads, and one day, whilst hunting for capercaillie, he put up a specimen of the great eagle owl, which he unfortunately failed to kill. By far the most interesting bird, however, of these semi-arctic forests is the hawk-owl (*Surnia funerea*), a very remarkable creature showing the characteristics of both hawk and owl. On my first day of elk-hunting I came across a specimen. While scrutinizing the openings on the rugged hillside, as Kristian and I walked along together, I saw a raptorial bird sitting at the summit of a withered pine, and, moving further up to ascertain the species, I was amused to find myself face to face with a hawk-owl, who was scanning my movements with a curiosity quite as great as my own. He flung himself from his lofty perch and came sailing straight towards us with a silent, though not altogether unfalconlike flight. The trustful way in which he sailed round our heads, with his great yellow eyes steadfastly fixed upon us, was altogether charming; and having satisfied himself that we meant him no harm he flew back to his original perch and commenced watching the ground beneath in search of lemmings and voles, which are so abundant in these forests.

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Some three weeks later I had a splendid opportunity of witnessing the manner in which these birds capture their food. One morning, as I was smoking my pipe, seated on a log near a farmhouse in the Grondals Valley, a hawk-owl came and pitched on to the summit of a dead pine within sixty yards of me. I kept perfectly still, and the bird either did not see me or was indifferent to my presence. He was evidently in search of food, as he kept moving his head from side to side with a gentle stooping motion, gazing fixedly at a certain point where small mammals might be expected to materialize. Twice had the bird almost thrown himself into the air, when he checked the movement, evidently in consequence of the retreat of the prey. The third time there was no mistake, for the owl opened his wings and, taking a slanting direction downwards, dropped like an arrow towards myself. As he did so I noticed that his tail was elevated well above the wings, evidently for the double purpose of controlling his flight and assisting the subsequent spreading of his feathers, which took place just as he checked his descent, threw out his legs, and seized the mouse. This all occurred within fifteen yards of my position, so I could distinctly see the struggles of the mouse and the quiet, businesslike manner in which the owl lowered his head and, with one nip, instantly severed the spinal cord of his struggling captive.

Then came one or two nervous looks around, and with rapid beat of wings the bird ascended once again to his lofty watch tower, where he commenced the preparation of dinner. I could see through my glass how carefully he crunched the motionless body which he gripped so firmly in his right foot. Every bone in the little mouse must have been broken again and again ere the bird, with one satisfactory gulp, swallowed his prey.

Yarrell's figure of the hawk-owl is a very poor representation of this interesting species, and subsequent illustrators are equally at fault in setting the tail nearly upright, according to the stereotyped conception of the usual hawk and owl habit. Only very rarely does the bird carry his tail in this wise, its normal position being much like that of the finches and other perching birds, at an angle of quite twenty-five degrees out of the perpendicular. The eyes are of an intensely brilliant yellow, brighter even than those of the goshawk.

Autumn is not the best time of the year in which to study the bird-life of Northern Scandinavia, for, with few exceptions, such as the hawk-owl, the eagle-owl, the white-tailed sea-eagle and the capercaillie, all

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the most interesting birds are migratory and are gone before the first suspicion of winter.

In Norway this autumnal migration takes place several weeks earlier than on our own shores, probably owing to the fact that the birds themselves know how suddenly winter in the northern wilds envelops the land with a mantle of snow, beneath which is buried all fruit and insect life. In the British Islands, the change of season being more gradual, the summer birds are in no such hurry to take their departure. Here, too, insect life is fairly abundant till the end of October, whereas in Northern Norway winter in all its severity often sets in about the first of that month. The resident birds commonly seen there and on the adjacent coast are, however, of sufficient interest to repay study by the ornithologist.

On a journey up the coast in August last I noticed off Aalesund three or four specimens of the somewhat rare Sooty Shearwater (*Puffinus griseus*), a bird I had not previously met with in Europe. In flight and general habits it closely resembles the common Shearwater, and, were it not for its characteristic flight, might also be mistaken at a distance for the dark variety of Richardson's Skua.

Near the mouths of some of the large fjords, where the small whales and the big saithe and pollack had been chasing to the surface vast shoals of herring, we saw enormous flocks of common kittiwake, and lesser black-back gulls, whilst here and there amongst them dashed those bold little pirates, Richardson's skuas, the dark variety apparently predominating in numbers. Off Hitteren we caught sight of the first flocks of eider duck with their young, and old male eiders in bachelor parties. Here, too, close to the northern landing-stage, were two fine flocks of the velvet-scoter (*Edemia fusca*). These birds interested me much, the more so as I noticed that, contrary to the habit of other members of Anatidæ at this season, the old males mixed indiscriminately with the females and young. Whilst I was watching the velvet-scoters through a telescope, Mr Lodge obtained his first view of the white-tailed eagle (an immature specimen), which came flying low along the seashore.

Bird life is remarkably scarce in the neighbourhood of both Trondhjem and Namsos; but at the mouth of the Namsen we saw numbers of magpies, hooded crows, white wagtails, and bramblings, a few northern marsh tits and willow warblers, and a three-toed woodpecker. In a drive of nearly 100 miles up this beautiful river, with its low-lying woods and

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green pastures, there were no birds of interest to be seen, save an odd red-breasted merganser, with here and there a raven or a common jay. It is not till the traveller penetrates the great rock-bestrewn and tangled hillsides, the birch and open fjeld region, that he begins to see some of the more interesting (and commonly scarce) species that make the wilds of Scandinavia their permanent home.

One of the most engaging species to be met with in the woods is the Siberian jay. It flits along before you in a delightfully tame and charming manner, the brilliance of the tail reminding one of some giant redstart. So inspiring, too, to the naturalist, is the sight of a new species that once, when travelling from Trones to Tunsdalen, I felt I must try at all hazards to shoot one of these pretty creatures, even though with so terrific a weapon as the Mannlicher rifle then in my hand. By a somewhat lucky shot I hit the poor little jay in such a manner that the feathers were but little injured, and my friend secured an excellent skin from the carcass.

In the upper Namdalen, as well as in Grondalen, and Tunsdalen, I found all the northern game birds, except black-game and hazel grouse, fairly plentiful. Black-game I saw only three times, and hazel grouse not at all. Fjeld ryper and dal ryper were, however, exceedingly numerous; but, charming as they were to the eye, my delight in them was too often soured by the distracting effect of their scent upon Bismark, who really ought to have known better than to pay any attention to such small fry. The great cock of the woods, too, was often in evidence, sometimes crashing out from the dense pines, or sailing majestically on motionless pinions over the tree tops near the timber line.

At this season the old cock capercaillies live by themselves, or in small parties of two or three, frequenting the edge of the timber and birch region at a height of about 3,000 feet, whilst the hens are still with their broods in the densest cover of fallen logs and raspberry bushes. The young cocks soon leave the protection of their mothers, wandering off to shift for themselves much sooner than the young hens. Their diet is of a highly varied character. The crop of a young cock shot by Mr Lodge contained, besides almost every species of northern berries, six or eight kinds of leaves. No birch or Scotch fir was there; this food they seem to take to only when the land is buried in snow. One day, as I changed my hunting ground from Trones to Tunsdalen I encountered a cock capercaillie engaged in finishing his evening meal. He ran off up a steep hill, and just as he reached a convenient elevation from which to commence his



Elk. Poland, Puszka Wielka
 Rzepichy, 1880
 5000 ft. above sea level
 in possession of Prince Henry Liechtenstein
 Vienna
 2 1/2 in. long
 1 1/2 in. high

From a Drawing

by J. G. Millais.

ELK, FROM POLAND.

In the possession of H. H. Prince Henry of Liechtenstein.

PLATE LXVI.

ELK HUNTING

fight I fired at him with my rifle, and to my great delight down he came, his neck broken by the bullet. There is no better bird to eat than a young capercaillie, and my hunter's wife knew how to cook them to perfection.

In one of the great fresh-water lakes beyond Lassimoen, in the Namsen Valley, I was surprised to see a single female black scoter (*Cedemia nigra*) a bird that is not generally known to frequent this part of Norway in the summer. Whilst the velvet-scoter breeds freely in many of the lakes of Norway and Sweden, the common scoter seems to prefer more northern lands in which to nest. Russia and Siberia are its summer home; in Iceland, too, I have found a nest.

On the Tuns river I observed a small party of goosanders, as well as the interesting little black-bellied dipper; but little birds in the woods were scarce, those usually seen being meadow pipits, fieldfares, redwings, golden-crested wrens, marsh tits, and white-headed long-tailed tits. The last-mentioned bird is an extremely interesting example of adaptation to environment, both in the matter of colour (for his white head assimilates with his desolate home) and in the provision made by Nature for enabling him to obtain his hardly-earned food. Though a delicate little creature, his bill is remarkable both as to size and strength; it is almost hooked, and has four times the power of that of our long-tailed tit. And he needs it; for in these semi-arctic forests insect life hides itself away in deep recesses amid the interstices of the bark and foliage, and no small force is required to extract the food.

And now to return to elk-hunting, its delights and its disappointments. After the successful day last described I had ten days' hard work, with no result beyond a severe trial to my patience. The wind, after trying to blow from all quarters at once, finally dropped away to a dead calm, and the high open ground proved unproductive, except on the 15th, when we experienced a cruel piece of luck which, perhaps, some would say was due to my own carelessness. Having made a short cut right over a high mountain, we were descending in mist and rain towards the Grondals Valley, when, looking up for a moment, I saw standing quietly in the haze above us, two huge bulls, one carrying a magnificent head. On a word from me my companions lay down at once, but unhappily the elk had seen us, and our position was all but hopeless. Quickly manœuvring to my right I got out of sight and by running straight up the hill succeeded in getting 100 yards nearer to our object. The bulls were then about 450 yards from me, and just as I peeped over a bank of moss they turned round slowly and

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moved off. Firing at the big one, I saw the moss fly up between his forelegs, and my second shot Kristian thought had hit him, as he plunged to one side. Then ensued some of the most extraordinary tactics I have ever seen evinced by wild animals, except perhaps by the white-tailed gnu who, under similar circumstances, goes on like a thing demented. Both the elk commenced running slowly in circles, then for a moment they would trot three or four paces in one direction and as suddenly turn off in another. Once or twice they stopped dead—both of them—turned round, and then took a pace or two to the rear again. Certainly no other deer, that I have ever seen, behaved so strangely in the face of danger. It was evidently done for the purpose of disconcerting the hunter's aim, these seemingly stupid old elk having somehow grasped the fact that between the flash of the rifle and the striking of the bullet there was an interval during which they could alter the line of their movements and so avoid being struck. These curious evolutions were carried on until the creatures were approaching the sky line about 700 yards away, when any further attempt to arrest their progress would have been useless. Three times I was within an ace of hitting the big fellow, but at the critical moment he altered his direction, and the shot was a miss. What is the best course to pursue when an animal behaves like this is more than I can say. One never knows what he will do next, and the most careful allowances to meet the exigencies of pace, direction, and windage are thrown out of gear. Kristian told me that he had often seen old elk run about in this fashion, and that they almost invariably did so when startled in perfectly open ground at some distance from the hunter. When frightened in timber, they run straight away, avoiding altogether these zigzag tactics.

We followed on the track of the two bulls for several miles right over the top of the highest mountain and even on the snow itself, the mere chance of a stray bullet having hit the magnificent fellow being more tempting than the pursuit of fresh tracks. Ye Gods! what a head he had as he crossed the sky-line. "There are few like him in Norway," sadly murmured Kristian, as we finally gave up the pursuit in despair.

Having thoroughly worked all the ground that could be covered in a day's march from the Grondalen Farm, I returned to Lassimoen on September 19 and started next day on another expedition, with consequences thus recorded in my diary.

September 20. Another glorious day, the Namsen like a mirror. Frosts now occur every night and all the leaves are falling from the birches in

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showers. Spent a long day round the shoulder of the mountain and up the branch valley where the lakes are, as they are a sure find for cow elk, and the bulls should now have come in to join them. About 12 o'clock we took a rest on the summit of a cliff commanding a magnificent view of the whole ground; for that there would be anything moving about at this time of day was hardly likely, and after a long climb we were glad to sit down for a bit where we could smoke and spy out the land in lazy contentment. All at once Bismark who for some time past had been alternately yawning, stretching and scratching, raised himself on to his forelegs and gazed earnestly down hill towards a little tarn into which we could have thrown a pebble some 500 feet below. A quiet whimper, and the good dog cocked his tail at a businesslike angle and showed his anxiety to be off. Except himself, all was now dead still, not a breath of air was passing, so I had little hope of getting up to the game, whatever it might be. We must chance it, however. So down the rugged slope we went with the utmost caution, only to find ourselves in a dense tangle of birch, fir, and swamp in which it was impossible to see twenty yards ahead. The dog now became extremely excited, but quite uncertain in which direction to proceed, and as we were equally in the dark, there was nothing for it but to go blundering on, as we did, until, as luck would have it, we reached an open space beside the lakelet. Here Bismark suddenly looked up from the spoor and gazed intently into the dark wood above us, and at the same moment I became aware of two great shadows followed by two pairs of white stockings flitting out of sight about seventy yards away. "The last is the bull," said Kristian hurriedly as I took a quick snap shot. Instantly there was a great crash, followed by an interval of silence, and then a more prolonged breakage of sticks as a heavy body rolled a few yards down hill and came into view. A young two-year-old bull, by all that is unlucky!

Meat was not the object of our chase—we did not want it—and as I had not yet secured a good head, the slaying of a beast as big as a carriage horse but with small horns was no subject for rejoicing; so after lunch we set forth again to try and find something better, to atone for this mistake. Worse luck, however, was yet in store for me, and this time through no fault of my own.

About four in the afternoon we struck the fresh spoor of a good bull and cow which, with Bismark's steady assistance, led us through a maze of ravines always upwards towards the high and open field. Two and a half hours of slow tracking, climbing nearly all the time, had somewhat

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dulled our spirits—Bismark's, too, for he showed no signs of elation—and the sun was setting as we approached the final ridge beyond which I intended to move homewards. Suddenly Kristian dropped to the earth saying, "Look at the big fellows!" There they were—a big bull with a very moderate head, and a huge cow as big as himself. They were standing looking in our direction 350 yards away but apparently had not quite made us out. As they looked aside for a second I made haste to move forward out of sight to a position from which I could shoot if necessary; but, glancing at them from my covert, I saw to my disgust the two elk trotting away at top speed. Seeing, then, no other chance but a long and difficult running shot, I sat down and came into action, Kristian the while resting his back against mine as a support. The first shot hit the bull on the horn, making a noise like the loud crack of a wagon whip. Both elk now turned round and began to run about in the extraordinary way I have previously described, so I waited a moment on the off-chance of the bull either standing or going slowly in a favourable direction, as he probably would have done had the ground been a little more open. But as it was the animals took another tack, moving towards a rise over which was thick birch scrub, so I had to fire again at once. This time a miss—the shot was too low—and away went the two elk, running almost side by side, the bull a little in front. A poor chance for me, but my last; and I took it. At this moment, most unfortunately, the cow suddenly lunged forward and so nearly covered the body of the bull that it was impossible to say which of them was hit. There was a loud whack on the ribs of one or other of the animals as both disappeared over the brow. All sense of fatigue vanished, and we raced hard to the ridge to see, as we hoped, the bull *in extremis* on the other side. "I am sure you have him! There he is!" shouted Kristian as, while panting along, we caught sight of four great legs sprawling in the air, down in the scrub.

A little caution, however, was needed in approaching the wounded beast lest he should jump up again and make off; so I made for a neighbouring slope, where, from the top of a tree, I could see anything that moved, whilst Kristian went through the bushes with the dog, in case the elk should run. Presently he gave a low whistle, on which I came down and found him sharpening his knife over the carcass of—the cow!

"Was there ever such bad luck!" he said. "She must have run exactly in front of him at the last moment."

The day, however, even with its mishaps, had been an eventful one,

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and we had at least the consolation of knowing that the farm people would be far more pleased than if we had shot the biggest bull in creation.

As we walked home down the steep hill towards the Namsen a frightened cow elk, which had got our wind, came galloping past me within forty yards, with a calf at her heels that she called to continuously in every variety of grunt.

September 22 was quite as fine as its predecessors, so I determined to work the high ground in the distance beyond the lakes and arranged to spend the night at the Sæter. Antonia, one of the daughters of the house and as strong as a hill pony, volunteered to carry our impedimenta—coffee, pancakes, two sheepskins and a chunk of elk—and after three hours' hard walking we crossed the big lake and ascended the range to the north-east, keeping just under the crest and carefully inspecting as we went along all the birch clumps below us. Kristian made an excellent spy. We were about to sit down, when he remarked quietly, "I see a black thing away down there—a bull elk, or I am much mistaken." My glass was immediately on the spot, a small clump of birch, about 800 yards away below—and as I adjusted it out walked slowly a big bull with what looked like a very good head. A grand chance this, for I was well above him, and a gentle but steady breeze blew down the valley. All the more lucky, too, for me, for had the elk moved one minute sooner Kristian could not have seen him and we should have gone by unaware of his presence. As I watched and gloated over his magnificent proportions he walked slowly forward chewing a sprig of birch, entered the clump and lay down, leaving only the tip of his horns visible through my glass. He would certainly stay there now, and on rising must come within view of a commanding ridge, which I had already marked as the point from which I hoped to take my shot.

Leaving Kristian and Bismark, I commenced the stalk—a very easy, although an extremely wet one. When within 300 yards of the elk it was necessary to cross two small swamps, and these being in full view I pushed myself along slowly, *ventre à terre*, getting soaked to the skin in the process. At last I arrived at the rising bank, within 100 yards of the elk, and keeping a Scotch fir in line with the spot where I knew the animal to be, I cautiously peered over. Not a sign of the beast could be seen. Though I searched most diligently among the twigs for fully ten minutes nothing could I discover. And yet it seemed almost impossible that no part of the animal should be visible from my point of vantage, incomparably the best, so far as I could see. I must try and try again before venturing to

THE GUN AT HOME AND ABROAD

move. And lucky for me that I did. Peering through my telescope, I noticed at about 100 yards away what looked like a large poplar leaf in deep shadow bobbing up and down, while all the leaves around it were fluttering from side to side. This seemed curious, and by and by something still more remarkable occurred. As the wind dropped for a moment this strange object suddenly popped up like a Jack-in-the-box and instantly disappeared again. I knew then that since no tree or shrub could perform this feat, what I had seen must have been some part of a living animal. In another minute or two it appeared again, and then I saw clearly enough what it was. It was the lower jaw of an elk quietly chewing the cud, with its head close to the ground. I now moved to a spot twenty yards away, which, though not so good a position to shoot from, commanded a good view of the whole of the elk's head. The sun was shining brightly upon it, so I got out my sketch-book and began to make a drawing direct from life. In the excitement of the stalk I had hitherto ignored my wet clothing and the cold wind, but now a shiver warned me to exchange the pencil for the rifle, and having nearly finished the sketch—perhaps the first ever taken from an elk in the wild state—I crept back to my old place behind the Scotch fir and signalled to Kristian to come down, getting at the same time into position for the shot in case he should disturb the elk as he descended the hill.

Provided he had not got the wind of us, the animal was almost bound to stand up and gaze, if aroused by any sound, so I kept alternately watching Kristian and the quarry to see which would be the cleverer of the two. Bismark, however, spoiled the advance of his master. When within 150 yards of me he must have got some side whiff of the game, for he began at once to tug at his chest strap, panting loudly with excitement and sending the sticks and stones flying all over the place. No wild animal could fail to hear that commotion; at any rate, not the crafty beast amongst the birch scrub. He slowly cocked his great ears, stood up and marched solemnly out into the open, standing for a moment broadside on to me, not 100 yards away. Now was my opportunity, so putting the white foresight over his heart I pulled, and the next moment off he started down the hill at full gallop,* disappearing over the ridge in a couple of bounds, just as the wicked Bismark dashed past me towing his broken leash. A volley of Norwegian oaths now came from the rear, but I knew that all was right, for, except when mortally wounded, no animal ever starts off at a speed

*This was the only occasion on which I saw the elk actually gallop.

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like that. As I ran forward a loud scuffling sound attracted me, and there was Bismark tearing away at the dying beast as it rolled and bounced down the hillside.

I was delighted at having secured a really fine elk, with a good head, at last, and we gloated over our prize by a roaring fire and drank some excellent coffee served by the fair Antonia. Then in the dark we made off for home.

Having now got all I was entitled to take on the Lassimoen ground, there was nothing left to me but to return to Grondalen, a walk of twenty-four miles, which I accomplished on the following day. From there I could move on to the distant wastes beyond Lake Nesau, a region I was bent on exploring, after hearing that no hunter had been there for the last ten years or more. These high and sparsely-covered birch regions seemed to be generally considered too far away from the haunts of man to be worth visiting on the mere chance of sport; but Elias Lillefjeld, who had been there once or twice, painted such a picture of the high quality of the ground and its attractiveness for the "Stor-Stor Ox," that I determined to go, even if I had to sleep under a rock.

By a great piece of luck there had come in during my absence from Grondalen a young Norwegian giant named Elias Chelmo; he was about 6 ft 2 in. in height and enormously strong, just the man to carry the sack of sheepskins necessary for our outfit. This he gladly volunteered to do; so, provided with these, an axe, and food enough for a three days' cruise, we started on the morning of September 24 for the south-east.

Marching along the side of the rocky mountain to the east of the Grondals Lake we commanded a magnificent view of the country ahead, during the intervals between the snow showers which were now frequent. As we came above the southern end of the lake Elias Lillefjeld noticed, quite a mile away, a dark object which my glass presently showed to be a cow elk. She was feeding on the salix that grew in sparse clumps near the water's edge on the further side, and a few minutes later we saw her wade slowly towards us across a great arm of the lake. It was interesting to watch the cautious way in which she made good her footing as she advanced step by step, each leg being lifted clear of the water and planted securely well out from the body before another one was raised. Even when the water came up so high that her lips dipped into it with every movement of her head, she continued to wade until increasing depth compelled her to swim ashore, when she quickly disappeared in the thick birch scrub.

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After proceeding for another three hours, during which the most likely-looking parts of the valley were carefully surveyed without success, we reached the end of the main valley and left the two Eliases to build a camp on the Grondals' side of the watershed fifteen miles from the farm. My hunter and I then crossed the range, and passing through the desolate valley covered with short scrub that surrounds Lake Nesau, ascended a small elevation that formed a perfect spying-ground in the centre of the great punch-bowl. One of the pits which the bull elk makes at this season now caught my eye. It was quite fresh, having doubtless been made the day previous; but no trace of the beast himself could we see. I was so crippled, too, with a bruised heel that I had intended leaving the inspection of the far end of the lake until the following day, but the temptation to go on was now too strong for me. I must at least do as much as possible in the hour and a half of daylight that remained; and since elk, when numerous, commonly make a pathway alongside of the nearest water in their journeyings to and fro, I sent Kristian down to the lake to see if any had been there.

Presently he returned with the joyful news that there was a track like that in a cattle pen, and much fresh sign of at least one or two big bulls; so up I got and hobbled after him as well as I could for another half-mile, when, fortunately, a suitable spot to spy from presented itself. We could now see the main features of the ground right down to the end of the lake, a series of broken ridges with broad gullies (the result of some glacial moraine) cutting in, and here and there cross buttresses sparsely clothed with stunted birch, where nothing so big as an elk could escape our vision, unless hidden behind one or other of these ridges.

Since the finding of this elk-pit Bismark's interest in the proceedings had constantly increased, and now he was much excited and so keen to draw on that we must needs yield to his wish. And lucky for us that we did. Presently he plunged his nose into a perfectly fresh track, along which, as we could plainly see, an elk had passed only a few minutes before. I now climbed a mound, and, taking a good spy in front, found (as so often happens when one is looking for game at long distances) that the quarry was quite near at hand. While shutting up my glasses and preparing to descend, I saw a cow elk walk quietly out upon one of the buttresses not 400 yards away.

All was now animation. Not a moment to be lost in preparing for action, for the bull was certain to be close by and must be attacked at once, or

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the light would be gone. To add to our difficulties, the wind, which had for some time been falling away, began to follow the usual course of puffs from all directions, so familiar and so disheartening to the stalker. Kristian therefore moved a bit to my left, from which a better view was to be obtained, and as soon as he looked over the ridge, some thirty feet above my position, I saw by his excited manner that he was in sight of the bull. To kick off my right boot, run up and join him was the work of a minute. And now I saw before me, quietly resting on a high bank close to the cow, a perfect monster of a bull, such as I had never dared to hope for. His head, too, was a very good one, and as I was laying my plans for an immediate advance, Kristian whispered in my ear, "There is not a bigger in Norway." It was all over in quicker time than it takes to write. Only a swift descent into a dip, a run forward (how sharp the rocks were), a rapid scramble up a boulder between two ridges, and there I was lying in position within 200 yards of one of the finest beasts I had ever seen. The cow was walking about uneasily, and though the bull took no notice of her it was not advisable to try and get any nearer, so I determined to shoot. "Crack" went the little Mannlicher. The great beast rose to his feet and reeled about. "Crack" again. He almost fell to his knees, but recovered and dashed out of sight at once. Dying to follow him up, I tried to run; but not another step could I take for the pain in my foot, so giving Kristian the rifle I sat down on a rock and fairly chuckled with delight, knowing well enough that the prize was mine. In another minute the rifle spoke out again, followed by a loud shout, and, scrambling painfully up the ridge, I saw Kristian waving his cap and standing over the elk not 200 yards away. What a horrid noise we did make, to be sure! I shouted and danced about like a madman, forgetting all else save the joy of possession. "This is one of the best three I have ever seen," said Kristian as we sat on the carcass; "two others I have shot as big, but no bigger." To give some idea of the bulk of this great creature I may say that it took the united efforts of four of us to turn it over on the following morning. Both of my shots had hit him fairly in the neck. The head, though on close inspection, somewhat disappointing, was of great width (46-inch span) and very thick in the beam, but there was no palm to speak of: only great points, five on the right and three on the left, the whole looking more like a wapiti head than that of an elk.

Flushed with victory even the miserable walk in the dark up rocky hills to our camp fire some six miles away did not seem so very dread-

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ful, but I cannot say I enjoyed it, any more than I did the following sleepless night spent under a rock. The wind and the snowstorms blew clean through the frail arbour of boughs that we had constructed as shelter, so there was nothing for it but to sit up all night with feet to the fire and backs to the piercing gale and snowstorm.

Two days more of fruitless search and we were once more back at Grondalen, and so, by way of Bergen, home again. Considering the variety of our spoil, it was a most successful expedition which had resulted in five bull elk and a bear.

As to Bergen, whatever its charms in other respects, it certainly cannot be complimented on its weather. From all I can learn, and my experience tends to confirm the common report, it rains there 300 days in the year, and the other sixty-five it snows. In fact, so wet is the place that to appear in the streets without an umbrella is little short of a criminal offence. One day (so the tale runs) a tourist appeared in the Bergen Piccadilly without the necessary protection, when all the horses shied at the unaccustomed spectacle. Another tiresome thing, not to be overlooked by intending visitors, is the "close time" for all objects of interest. Disappointed with the Trondhjem Museum, in which there was little to be seen beyond a squashed giant decapod that looked like a battered blanc-mange, and some stuffed beasts suggestive of a travelling menagerie that had died there, I had hoped to spend a happy day at Bergen, studying the Natural History Collection of which I had heard so much. But, no; it was Saturday, the Museum was shut, and a mean attempt at bribery and corruption, on finding my way to the back-door, was ignominiously foiled by a sweet-voiced lady who suggested that other people in the world needed a holiday sometimes as well as the British tourist.

THE REINDEER AND ITS PURSUIT

REINDEER are said to represent the oldest line of existing deer. The possession of defensive weapons, whether cranial or dental, in both sexes was doubtless a primitive character, and in the case of the reindeer both males and females possess antlers. In most cases of male deer the horns are first developed from nine to fifteen months, but in the case of the reindeer they commence to form at four or five weeks after birth. The fact, too, that the young are unspotted is also said to be a specialized feature, although Mr Lydekker considers that this may "possibly be of late acquisition." Yet it is hard to accept this, for no animal seems to have altered less in its osteological characters with the passage of centuries. The skulls of reindeer found in northern Europe and dating from the Pleistocene age are in every way identical with those of to-day.

The distribution of the reindeer is throughout the northern portion of the Holarctic region, but in the Pleistocene age it was abundant as far south as the Pyrenees, Central Germany, France, Great Britain, and Denmark. It is curious, therefore, that if the reindeer was of such ancient lineage its remains should not be found in the deposits of the later Pleistocene as are those of the red deer. Whether reindeer were ancient or modern inhabitants of the Arctic regions is somewhat doubtful. Some naturalists are of opinion that they are recent immigrants there, but Dr Scharff thinks that their original home was always in the north and that they wandered southwards when the climate became colder.

Reindeer all over the northern world present an enormous amount of racial and individual variation, and yet when we come to study them closely we find that the individual variation is more or less constant, whilst the antlers themselves can never be compared with those of any other deer. What we may call fully developed horns, with both brows palmated, and furnished with a large number of points and large bays and tops, are rare in all races but occur more frequently in some local races than in others. These complete heads are more common in Newfoundland than any other place, and even there only exist once in every hundred males. In Norway they are very rare. I have only seen three such full heads, all from the Hardanger district. In Cassiar and Alaska I have only seen two such heads. In North Labrador and Greenland no head of this type is known, whilst from Southern Labrador and North Central Canada I have seen about twenty examples.

THE GUN AT HOME AND ABROAD

Asymmetry in reindeer antlers is, in fact, the usual feature. There is generally a single spike for a brow on one side and the brow of the other more or less palmated. The bays are also more or less palmated and furnished with a number of points. The tops are well developed with from three to ten long tines in Norwegian, Labrador, Barrenland, Cassiar, Alaskan and Greenland specimens; but are usually small and stumpy in woodland caribou of North Central Canada, Newfoundland and Central Asia. The most irregular feature in all local races is the position of the back-tine, which in the Newfoundland, Central Canadian and Central Asian races is generally low on the posterior margin of the horns and high up in Osborn's caribou of North Western America, the Barren Ground race, Norway and North Eastern Asia. For many years I have made a special study of the reindeer or caribou and its local races, having spent eight seasons in its pursuit, as well as collecting a few of the best specimens of those races which time allows me to hunt. By far the longest antlers are those from the peninsula embracing Hudson's Bay and N.E. Labrador, and I have records of ten examples over 61 inches in length. The longest on record is one of $67\frac{1}{4}$ inches, which was killed by an Esquimaux in N.E. Labrador, and is now in my possession. The next in length are those from the Alaskan peninsula, of which the American Museum of Natural History alone possesses a fine series. Perhaps the heaviest heads come from Cassiar (N. British Columbia) and Alaska. For number of points the seventy-one-pointer, described by Cartwright, holds the record, and after much trouble I have traced it. It was killed at the end of the eighteenth century near Cartwright, Central Labrador. In the "Field" I described and figured a remarkable Newfoundland head of fifty-six points and myself shot a head of fifty-three points in Cassiar in 1908. At Mattawa Colonel Rankin possesses an extraordinary woodland caribou head of fifty-nine points killed by an Indian near Abatibi, N. Ontario. The local races of reindeer will, however, be dealt with separately in the succeeding volumes of this series, and it is our purpose now to describe more particularly the races inhabiting Europe.

1. SCANDINAVIAN RACE

Rangifer tarandus typicus

The most characteristic feature of this typical race is the broad black line extending from the foreleg along the flank. This does not occur in

REINDEER

PLATE LXVII.

1875

1875

1875

1875

1875



Hubbard 1910

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the American or Asiatic races, in which the dark mark is very faint or altogether absent; legs very black with pronounced white ring above the hoofs; heads black, becoming grey on the sides, white round the eyes and on the front of the lower jaw. Neck grey or white; beard, white, or grey; rest of the body, grey or brownish-grey; belly, white or grey; tail, white and black on the upper surface. The horns are usually about 45 to 52 inches long, with points varying from fifteen to fifty. I possess a head from Hardanger with forty-nine points, and have seen two heads of 60 and 61 inches long. Horns over 56 inches are however very rare.

Any naturalist who makes a close study of the local races of deer must be struck by the way in which they vary even in ranges only forty or fifty miles apart. It is not possible to judge reindeer by looking at specimens in the British Museum, where only a few from widely different areas exist. In visiting Saetersdal, Hardanger, Laerdal, Jotunheim, and Namdalen, where hundreds of pairs of horns can be seen, I have been much impressed by the fact that each local race carries its own individual characteristics. Those from Hardanger and Saetersdal might be totally different races, so diverse are their types of antlers; whilst a comprehensive view of a large number of pairs of horns from the aforementioned mountains will convince the observer that reindeer change the forms of their horn points in accordance with feeding and environment as much as red deer do in the various parts of Europe.

The Saetersdal wild herds which now inhabit an area bounded by Saetersdal on the south, Stavanger on the north, Telemarken on the east and the sea on the west, are always long and thin and seldom carry more than eighteen or twenty points and usually fifteen or sixteen; 59 inches is the longest head (killed there by Mr Scott on Lysheien). In Hardanger Vidden, where the wild reindeer are much hunted and now getting scarce, the type is short, seldom more than 46 inches, but furnished with a large number of points. Many heads of over forty points, mostly killed years ago, are in existence. In Namdalen and Jotunheim the type is long, thin and often with good bays and tops somewhat palmated; whilst in Laerdal and Hallingdal horns are very long, with straggling tops and few points. From Laerdal I have seen two heads 60 inches long.

When we go north to Finmark and east to Sweden and Central Lapland we find the reindeer as a rule a smaller and less well-antlered animal than in Central and Southern Norway, but this we should expect, as the races are here practically all under domestication, the wild ones being only

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escapes from the tame herds, whilst it is a somewhat curious fact that reindeer do not, as a rule, grow such fine horns under domestication as they do in a wild state.

Passing east from Finmark we find the same type of reindeer inhabiting Central Russian and Swedish Lapland, and this type varies but little throughout North Russia to the east of Archangel and the islands of the White Sea, though the bodies of these animals are usually somewhat larger than the true typical race. In the Kola peninsula and the adjacent coasts and up the Pasvig river there is a specialized race which has been named *Rangifer tarandus kolaensis*, and is certainly the finest reindeer in Europe or Asia. It is a very large animal, comparing favourably both in body and horn with the caribou of N.W. America. These reindeer, now all domesticated by the Russian Lapps, are doubtless the descendants of a wild and giant race which at one time roamed throughout North Russian Lapland. Two heads brought by the late Professor Collett from the Pasvig River in 1886 and now in the Natural History Museum at Christiania, are by far the finest European reindeer heads I have seen and are quite equal to the best American specimens. In Spitzbergen there is a dwarf race known as *Rangifer tarandus Spitsbergensis* (Andersen) whose nasal bones differ slightly from the typical race. The horns are quite small but of the usual reindeer type.

At the beginning of the nineteenth century reindeer were very abundant throughout Norway, from Saetersdal to Finmark, in all the ranges of mountains to the west of the backbone separating Norway from Sweden. At that time the peasants were badly armed and few possessed guns of any power, so that the annual increase more than compensated for the annual losses. Lloyd, in his "Scandinavian Adventures," bears testimony that they were as abundant as the blesbok in South Africa, and I myself have met old reindeer hunters who have told me that forty years ago they have seen as many as 5,000 to 6,000 within view at once, during the rutting season in the high valleys between Laerdal and Hallingdal. The Express rifles introduced between 1860 and 1889 made some difference in the numbers of the animals; but the great change and slaughter commenced about the year 1890 with the advent of the small-bore Krag-Jorgensen rifle and the introduction of herds of tame reindeer into the main ranges where the wild herds existed. In twenty years from that date nearly the whole of the Norwegian mountains have been depleted of wild reindeer, and now only a scattered remnant exist in the mountains of the Dovrefjeld,

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Telemarken, Gudbrandsdal, Valdres, Hallingdal, Laerdal, the Jotunheim, Romsdal, Sundal, Hardanger and Stavanger.

About the year 1890 every Norse peasant living in the neighbourhood of reindeer-frequented mountains purchased a "Krag," and as soon as the season opened commenced operations. Usually a dozen or more worked together and surrounded the herds and, firing into the "brown" as the animals massed together, killed or wounded enormous numbers. In some places whole herds were extirpated without a particle of the meat being carried away. This went on for fifteen years until the reindeer became so scarce that only the most hardy and keen of the hunters continued the work of butchery, and then the Government stepped in, as usual too late, and enacted a close season for five years. In theory this law was excellent, in practice it was absurd, for the strong young peasants utterly disregarded it and continued their operations as before. "I have had good shooting at reindeer," remarked a youth to me one day in Saetersdal, "but never such a good time as during the five years of close season." It was all very well for the Norwegian Government to make laws, but quite another thing for them to enforce them. In Norway distances are great and the *Lendsman*, that one emblem of authority, is generally old or infirm. How could he catch or control strong boys roaming the cloudlands forty miles away? In most cases he shut his eyes to what was going on or looked the other way when he saw skins and horns lying outside some farm or saeter.

So the extermination proceeded until the present day. It is now scarcely possible for an English sportsman to be certain of seeing wild reindeer unless he takes one of Dr Heiberg's shootings on the Stavanger-Saetersdal district. Dr Heiberg has worked long and laboriously to save the wild reindeer from extinction and has succeeded to a great extent, although he still has difficulties. It is enough to say that at the present moment there are between 6,000 and 7,000 reindeer in the large range of mountains which he now owns or rents from farmers. Some poaching doubtless continues, but for the most part the ground is well watched, and a tenant has a fair chance of killing at least two good heads there in any season, provided the winds and weather are not too hostile during the short shooting season in September. Reindeer are undoubtedly increasing in Stavanger, but in all other parts of Norway they are rapidly becoming extinct.

In summer reindeer frequent the edge of the snow on the highest mountains over 2,000 feet. To a great extent this lofty habitat is chosen both

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for safety, owing to the presence of shifting winds, and also to escape the attacks of the parasitic flies of the order *Oestride*, the females of which lay their eggs in the back, flanks, and nostrils of the deer and cause them much suffering. Reindeer feed in the sheltered corries and flats, where the reindeer moss is found; in the early morning and evening lying high up on stony hill faces, or on the snow-braes during the warm hours of the day. They usually feed upwind and are not always so easy to approach as red deer owing to their excellent sense of smell. The slightest puff of wind from man causes them to dash off at full gallop, and they seldom settle down or halt until many miles have been covered, often leaving a district altogether when once they have been thoroughly alarmed. Their powers of sight and hearing are not equal to red deer and many other species, but their noses are far superior, whilst a certain dread of alarm seems to pervade the herds so as to make them liable to sudden panics, and this is one of the greatest difficulties in hunting these animals. I have often seen reindeer, when quietly feeding, take no notice of crashing rocks falling in their vicinity, and then for no apparent reason the nervous fear that something was wrong would communicate itself to the herd, and without warning they would dash off at full gallop and go for miles until they were completely lost to view.

In summer their principal food is *Lichen rangiferinus*, and in autumn and winter they also dig it up with the fore-feet. In summer they also eat quantities of *Ranunculus glacialis*, *anemone vernalis*, and many kinds of dwarf shrubs that grow about the snow-line. When the snow falls they eat quantities of four kinds of *Salix*, namely, *S. glauca*, *S. polaris*, *S. lanata*, and *S. herbacea*; whilst in winter they are very fond of alder and birch shoots. It is said that in a great lemming year they crush to death large numbers of these small rodents with their hoofs and devour the vegetable contents of their stomachs.

Reindeer are in Norway essentially gregarious and gather in very large herds both before and during the rutting season. The percentage of females and immatures is very large, for the old males are comparatively scarce, numbering only about six per cent. This makes the chase of the latter all the more difficult and exciting. The females sometimes carry quite large horns, the best I have seen numbering twenty-four points, whilst twenty points are not uncommon; but in size they bear no comparison to the horns of the males, nor can they possibly be mistaken for them. The horns of the females often remain on the heads until April, whereas the bucks cast



Photo by/

HERD OF REINDEER, NORWAY, 1907.

D. G. Millais.

PLATE LXVIII.

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theirs at the end of October. Sir Richard Owen's theory of the "snow-plough" is, therefore, quite ridiculous. I have never seen a reindeer buck touch the snow with his horns. He always scrapes the snow away with his feet, and is often pushed out of the way, after having made a nice feeding hole, by some selfish female possessed of horns. Old writers on the subject of reindeer made all sorts of ridiculous suggestions as to the differences of the woodland and the Barren-land varieties of reindeer, generally emphasizing the fact that the "Barren ground" races, in which they included the typical race, were migratory, and the "woodland" not so. A close study of the animal proves that all races of reindeer are very similar in their habits and that all are migratory according to the scarcity or abundance of their favourite diet. When food becomes scarce in any district reindeer migrate sometimes only fifty or sixty miles and sometimes hundreds of miles, and the same applies to Norway, the Lena Delta, Newfoundland and North America. These periodical migrations are generally undertaken in late or early autumn, and are entirely governed by the snowfall and the temperatures. In Norway migrations of reindeer during the days of their abundance were a common feature and even to-day proceed regularly on a small scale in local areas. Dr Heiberg informs me that a migration commences every season amongst the Saetersdal-Stavanger herds in late August, commencing in the south-west and moving north-east. The herds form a complete circle of their country, embracing 200 to 300 square miles, and by the end of September, after going as far as Telemarken, work back to their original position near the coast.

A cold north wind with snow will cause all the reindeer on the north side of the mountains to move 100 miles to the south, and take refuge in the sheltered valleys on the south side of the highest mountains, so that your stalking ground which may have been full of deer in August may be devoid of them in September. Sometimes reindeer are caught in a "glitter," and become so weak that they are unable to migrate, and die in hundreds. This occurred in the high tops of Laerdal-Hallingdal in 1888, and hundreds perished, whilst I could give many other examples of a similar kind that have occurred in Norway, the Hudson Bay Islands and in Newfoundland. A "glitter" is caused by heavy rain falling on the top of frozen snow and then a frost in succession. The ground then becomes so hard that the deer cannot break through the crust and wander about in misery till they perish.

In the rutting season in Norway the herds are in a constant state of turmoil

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and are then easy to approach. They do not, as a rule, break up into small lots as they do in Newfoundland. The call of the male can be heard at a distance of about 300 yards, and is a series of grunts not unlike the cry of the fallow buck, although louder. The head is often held close to the ground as he utters three grunts, "Ugh, ugh, ugh," and then raised as he chases some female or ardent youngster whilst he gives a double call, "Er-ugh, er-ugh, er-ugh." When in full rut the male will stand for a long time with lowered head and legs apart as if sick, looking round occasionally with jealous eyes and sometimes dashing at full speed at any other male that comes near. In the tame herds a man who guards them has to be accompanied by a clever dog, and be possessed of quick movements, to avoid the rushes of the males in the rutting season, for they will charge a man with all the ferocity that they display towards each other. No deer fight so obstinately or so frequently as the reindeer. There is no "bluffing" or beating about the bush in their fight. They charge head on and meet with a crash that can be heard a mile away, and each tries to force the other downhill. One of the combatants generally gives way soon, but in the first charge they meet with such impetuosity that the horns are often broken. In fact in the end of October it is rare to see an adult buck whose horns are not broken. It is not until one observes two reindeer bucks in combat that one sees how wonderful a provision of Nature is the form of the large brow tine or tines, for on this the male receives the charge and is in consequence seldom injured. Were it not for this natural shield, or were their horns at all pointed like some red deer stags, many of them would be killed at the first impact.

By the end of the first fortnight in November nearly all the adult males have lost their horns, and the herds descend to lower levels and sometimes consort with the tame herds. This habit and the fact that the old males often try and run off with the females of the tame herds during the rut has led to the destruction of the wild reindeer as much as by attacks in their own domain. Every Lapp in charge of a herd of tame reindeer has orders to shoot any wild reindeer "on sight" at any time of the year, so that in time the wild animals will soon cease to exist in the vicinity of the tame herds, for the Lapps are keen hunters and the bodies of the wild animals belong to themselves.

It is uncertain at what date Norwegian reindeer were introduced into Iceland, but there are two herds there, one in the wild desert of the north-east near Dettifoss and the other in the south. The northern herd is a fine

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one and has much increased of late years, being materially protected by its isolation and the fact that few sportsmen or natives ever visit the place. Now we hear that a nitrogen company is to harness the magnificent waterfall of Dettifoss and make use of its power, and this means that a small village will spring up within a few miles of the reindeer habitat. It is certain that these animals will all be killed unless the Icelandic Government take the matter in hand at once and protect them. These Icelandic reindeer are in every way similar to the typical race, with the exception that they grow on an average much finer heads.

From accounts given by Englishmen who have shot reindeer in Spitzbergen the sport, if it may be so called, is not of such a character as to tempt anyone to go there for that purpose. Steamers leave Trondhjem every August for bear and reindeer hunting round and on Spitzbergen, and a few travellers have an opportunity of killing these animals on the hill slopes of the west side of the island near Advent Bay. The deer are, however, when found, so tame that the shooting cannot be called sport but merely meat or specimen hunting. The late Lord David Kennedy, who killed many reindeer in Spitzbergen, told me that the first four bucks he found were not alarmed at the sound of a rifle, and he shot one after the other without either moving from the spot or hiding himself, and subsequently he always found the animal to be without fear. The confined area of their range and severe climatic conditions would account for this.

In spite of constant harassing in the autumn by the crews of Norwegian ships the Spitzbergen reindeer are still numerous, and this may be accounted for by a possible immigration across the ice from the north-east, where man cannot hunt them. It is only in the autumn that they descend to the west coast-line to feed on the seaweed. The reindeer on Kolguev are tame, but a good many wild ones exist on Franz Josef-land and other islands of the Arctic Sea, whilst there is a large herd in the forest of the Government of Kazan, where they are preserved and shot by the Czar of Russia and his friends in winter battues.

The art of hunting the reindeer in the high fjelds of Norway is one of the finest sports in Europe, ensuring as it does all the best qualities of healthy manhood. No man can kill wild reindeer unless he is quite sound in wind and limb, for the walking is often very arduous, combining long distances with a certain degree of mountaineering, and the living rough and hard, as luxuries cannot easily be transported to the stone huts or saeters where the hunter must make his home. A shot at a good buck occurs about once

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a week, and then only after many miles of stony slopes and treacherous ice-braes have been surmounted, and sometimes not at all if the winds and the snow are persistently adverse. Reindeer hunting is no sport for the spoiled boy who wishes to reckon his success by the numbers killed, but is the ideal training for the would-be big-game hunter of the right sort who does not mind roughing it. Norwegian reindeer have been so consistently hunted for centuries that they are the wildest and most unsettled of European big game and require, on the part of the man who would pursue them successfully, enduring patience, hard work and some degree of skill. In no other form of stalking that I have tried is it so necessary to employ "dash" as well as caution. You should never potter about and wait too long, for even feeding reindeer may be taken at any moment with one of their sudden panics, and the result is no shot for that day or, perhaps, for ever with that herd. It is essential to get in and obtain your shot, even if a long one, rather than to wait as one does with red deer until they get to some place where they are easily stalkable. The only occasion on which the stalker can wait and pick his stag is when he observes a herd lying down at midday; and then, if he is so lucky as to find them in some spot where the winds are not tricky, and that is very rare indeed, he may take his time. My first attempt to kill a good buck was not very successful, but as it is typical of reindeer hunting I will narrate it. I had taken what was said to be "private" ground, with a stone hut, high up in the Laerdal-Hallingdal mountains near the watershed above Breistol. It took me just three years to discover that the only difference between "public" and "private" hunting ground was about £50, for the local hunter cares nothing for any "private" claims, and hunts indiscriminately all places within range of the valley where he dwells. But there were reindeer in these mountains, for a walk on Sunday when I did not carry a rifle enabled me to find twelve fine bucks. They got my wind in a small corrie at about 4,000 feet and ran up the opposite slope about 200 yards away. Such a sight did not occur again for three years.

My stone hut leaked and let in all the snow that fell. It was very cold and uncomfortable, and the weather bad for all the first fortnight in September, 1900, but I tramped the stony hills and plunged through the snow every day for ten or twenty miles in the hope of seeing a good stag. Nearly every day I saw reindeer, generally a few females and young. On September 4 I found fourteen reindeer in Scardal, and after a tremendous walk up Rank-a-botn, over the worst ground I have ever seen in Europe, they



REINDEER, from Aurevand, South Norway.

Length 53 inches: Circumference $4\frac{1}{2}$ inches: Tip to tip $39\frac{1}{2}$ inches: Spread outside $53\frac{1}{2}$ inches: Points 15 \times 10.

Shot by Mr. Wm. Alexander, September, 1908.

PLATE LXIX.

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stopped at the head of the valley and lay down. But when some chance of a stalk seemed possible the deer got one of their sudden panics and galloped away over the mountains right out of sight. In the night heavy snow fell, and all the mountains were wreathed in snow; but September 5 broke beautifully fine, and we ascended to the summit of the range at dawn, just as the sun rose and bathed all the landscape in lovely pink lights.

We had hardly reached the top when we encountered the fresh spoor of six bucks, and this we followed down the hill and back towards the hut. We had not gone far when I saw the last of the herd going slowly round a mass of rocks on the steep hillside, so, leaving my good hunter, Anders Grothe, I ran parallel along the hill and, descending by a contour, cut them off. Perhaps the noise I had made in the snow had alarmed them. At any rate, my first view of the herd was trotting slowly across my front at about 100 yards' distance. The best buck, a beast of about six years old, was in front, and I killed him dead as he ran. The others then doubled, and ascending the hill about 200 yards away gave me a second chance. At the third shot the leading buck wavered and left the others, and seeing that I had hit it I did not fire again.

Anders now joined me, and we proceeded to track the wounded buck for several miles without success, for it eventually settled into a long, businesslike trot, which proved that the wound was only a superficial one. We then returned to the stag I had killed and, cutting it up, carried the various portions to the hut. The head was not a good one, but being the first I kept it until I should get something better.

On September 7 we had another long march up Rankibotn over terribly rough ground. Here all the rocks are pointed on their upper surface and when covered with snow the leg slips off the point and plunges in hollows at every step. This made walking no little toil. Arriving at the end of the valley after four hours of hard work we suddenly came on the spoor of a large buck. It was quite fresh, so we followed it up Grohinar for more than an hour, when we suddenly came face to face with our quarry at about 150 yards. Fortunately he stood still and did not bolt. My first shot—taken in too much of a hurry—was a clean miss, but just as he moved to go I got in a second, which, hitting him in the kidneys, killed him dead on the spot. Not a good shot, but a very lucky one.

This was the first adult stag I had seen or shot, but his head, thin and disappointing, was evidently that of an old animal on the decline. We buried the carcass under heavy rocks to preserve it from wolverines, which were

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fairly numerous in these mountains, and Anders, taking the head on his back, set out for the hut. We had not gone far, however, when I saw eleven more reindeer come into Rankibotn and settle. I thought we should have an easy stalk, but they crossed the valley and ascended the main range, we following at our best pace. Poor Anders, who was far from well, toiled and groaned after me up the stiff ascent, and swore many times he would never follow reindeer again and carry a head as well, but all things come to an end at last, and we reached the summit, only to see the reindeer galloping over the next valley and away beyond into the next range of mountains. We followed for two more hours, and then, tired and dispirited, returned to camp.

From the 8th to the 15th we worked continuously, in spite of frequent snowstorms, and only once saw another buck. He showed up for a moment in the mist, and we followed his tracks for five hours, only to find that he had been alarmed and was making for another destination.

I killed an old yeld doe with a head of fifteen points one day after an easy stalk, and that concluded our hunting for the year 1900. Poor Anders returned to the Laerdal valley and died the same winter, from cancer of the stomach. He was one of the most charming men I have met in my travels and, for a Norwegian, an exceptionally good hunter.

I wanted a couple of good reindeer heads for my collection, and it was not until the autumn of 1907 that I had another try. This time I went to the Saetersdal-Stavanger country and took the most isolated of the beats controlled by Dr Heiberg. That year Fortune conspired to put everything the wrong way. First I was on the point of taking Lysheien, but gave it up as it meant dogs for ripa shooting and the rental of a large house which I did not want, and took Gyhei, at the extreme north-east of the range of mountains, as I thought it would be the least likely to be poached. Both these conclusions were wrong, for I had not reckoned with the north wind and the snow which drove every deer off my ground into the centre at Lysheien, where the sport was exceptional. I rejoiced that my good friends, P. B. Van der Byl and Fred Selous, had such excellent fun, for they killed fourteen fine stags, but it was rather hard that they should have all my deer as well as their own, when I had given up the place to them. However, such is sport, and I did not grudge them their good luck.

It took two days to get to the foot of the mountains, where I met my hunter, Knud Bratteland and his son. A stout Norwegian pony held the outfit, and we ascended through the most magnificent scenery for 3,000

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feet to a miserable stone hut about eight feet by six feet square. Having arrived there the snow commenced and the horse ran away after depositing his burden. Bratteland went after it and disappeared for a week, when I hunted alone with his boy Anders, an ingenuous youth of fifteen, who knew far more about reindeer than his father.

It is, perhaps, unnecessary to detail the toil and discomfort we experienced during that fortnight. It snowed without cessation for ten days, and every reindeer had trekked far to the south-east. At night the temperature was freezing, the snow penetrated every chink of the wretched shelter, if it might be so called. Moreover, the cooking stove went wrong, and more often than not we went to bed after eating biscuits, cold tea and half raw ptarmigan.

On September 10 I killed a female and a young stag reindeer, and as the stove behaved properly we had quite a merry day. It was not until the last day of the season that I saw reindeer again, this time a herd of ten females. I had no intention of shooting one, but Anders remarked that he must have his winter's meat, and that if I did not kill more deer he would return to these mountains and shoot them himself. In consequence I stalked the herd and got within sixty yards of them. My first shot killed an old doe, and I shot two others before the rest were out of range. This pleased Anders mightily, but it was a poor conclusion to my second effort to secure a good head. One incident of this unfortunate trip I shall always remember, as it nearly ended in a serious accident. I had been shooting some ptarmigan, which were abundant near the hut, and had given my gun, a highly prized fifty-guinea article, to Anders to carry. Boy-like, he wished to show me how to run across a steep snow-brae, and set off at top speed to cross at an angle of over 60 degrees. He got to the middle, hesitated and slipped, and the next moment was flying through space for over 100 feet. At the bottom there was snow and a jumble of rocks, just above a precipice, and into this the boy fell and lay prone, my gun being flung 20 yards away. I thought for the moment he was dead, but on hurrying to his assistance was glad to see him rise to his feet and begin to laugh. He was not hurt at all, at least far less than the gun, which he seemed to regard as a totally valueless article compared with a "Krag." Having work to do at Christiania and Copenhagen in the autumn of 1911 I thought I would combine it with a last attempt to kill a good reindeer stag, and so decided to try the Upper Laerdal mountains again, as I had heard of a good beat there where a few deer were still to be found. By good luck, however, I chanced to meet

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an English-speaking farmer in Laerdalsoren, who was himself an old hunter, and he urged me to go to the Jotunheim, where lived an old reindeer hunter named Ole Olesen who was most likely to know where deer were still to be found.

Whilst on the previous hunt everything had gone wrong, now the Goddess of Fortune smiled upon me, and I had one of the easiest and most delightful trips I ever enjoyed. Instead of a long journey of three days in carriages, a powerful 45-horse-power Lorraine-Detreich took me up the mountains for seventy miles by lunch-time to the lake of Tyin. Here I met Olesen, who agreed to accompany me, and going by motor-boat down the lake met his son with a good pony, and we ascended to his hut on the following day, the pony doing two trips to get the baggage up.

During the fortnight I hunted on the Jotunheim round the magnificent Gallopegin, the highest mountain in Norway, we experienced the most glorious weather, with sunshine and a good breeze every day. If the hunter were to judge the walking on Norwegian mountains by those of Laerdal or Saetersdal he would be wrong in his estimate that all are as rough, for walking on the Jotunheim mountains was like that on an easy Scottish moor, and except in a few places presented no difficulties. Olesen knew that there was one large herd of wild reindeer in the immediate neighbourhood, for he had killed four or five of them every year for the past ten years, and said that no one hunted there but himself, as the distance from the main villages was too great. He said the herd contained fifteen or twenty fine bucks, and that they were always together at this season of the year in some broken corries about three miles to the west of the hut.

We started before daylight on September 1, and going west for an hour did not find any sign of deer that was not months old. After rising for about 500 feet we looked into various corries that seemed made for reindeer, and after a long spy I was about to move my position when, chancing to look downhill and somewhat to the left, I saw the horns of a large stag moving behind some rocks. A swift run up and along the hill gave us a better view of the corrie, and immediately I looked down the hill I saw a sight which had been both my dream and hope for several years. There, scattered on the steep slope amongst the boulders, was a splendid herd of reindeer numbering at least 150 individuals. Most of the adult stags were still in velvet, only two being clean, and they stood in groups together, presenting a perfect little forest of antlers. The wind was just right, blowing straight in from the east and then uphill towards me, whilst the majority of the



Photo by I

J. G. Millis.

RECORD REINDEER HEAD, from Lyseheien, 1910.

Length $59\frac{1}{2}$ inches: Spread $41\frac{3}{4}$ inches.

PLATE LXX.

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herd were lying down or dozing in the early morning sun. It was a sight I shall never forget.

Seeing that all conditions were so favourable I now made plans to commence the stalk at once so that I could get sufficiently near to pick out the best head. Ole, of course, wished to accompany me, but after a heated conversation in Norse, which he professed to misunderstand, I got him at last firmly planted behind a rock, and then I slid down the hill until I was within 300 yards of the herd. Then, finding a convenient rock, I used my telescope to some advantage for ten minutes. There were at least six good heads in the herd, but one with good tops seemed far larger than any of the others. Fortunately this stag stood on a tiny green plateau with another good stag, and I knew that if I could only kill him dead I should probably have a good chance at the one close to him, whereas if shot in the heart he was sure to roll and fall down the hill, alarming all the rest.

Having decided this I at once started on the critical part of the stalk for the last 200 yards, but had hardly commenced it when some uneasy feeling caused me to turn my head, and there was that villain Ole upon his knees *on the skyline* watching me with intense interest. The man was either mad or no reindeer hunter to do such a thing, and I had to crawl back behind a rock and hurl pantomimic curses in his direction before he moved out of sight. The next thing I saw was Ole crawling down the hill towards me, so I started off again on the stalk resolved to chance his manœuvres being undetected.

It is a moment of severe strain to the stalker when he looks over that last rock from which he hopes to get his shot, and all the more is it so when he knows that the opportunity which he has long hoped for has come at last. One does not get into a big herd of reindeer with several large stags of the finest quality often nowadays, so I heaved a sigh of relief when I saw the long-horned stag and his comrade standing in just the same position as I had last seen them. I looked carefully at my old Mannlicher to see that all was in order, and got into a good position to shoot.

What I wanted was a chest-shot, which I have always found a very deadly one at deer. If you place a bullet just at the bottom of the neck the stag invariably sinks down or only staggers a yard and falls. I had to wait fully ten minutes before the long-horned buck would move, and then he turned his back towards me, but fortunately this did not last for long. He moved round again and faced me, dropping his neck in a day-dream. I was now so steady I thought I would try and break his neck from above,

THE GUN AT HOME AND ABROAD

so, pressing the trigger steadily, I fired. The buck at once dropped to his knees and rolled over quite dead as the shot echoed and reverberated amongst the rocks. I slipped in a second cartridge and sighted on the other large buck that stood broadside, looking down hill. He "lifted" to the shot—a sure sign of a fatal blow—and sprang over the edge of the plateau, falling amongst the rocks with a crash and rolling down the steep hillside. The whole herd was now thoroughly alarmed and galloping in a thick mob down the hill, bucks and does all crowding together. I reversed my position and lay down facing the other side of the corrie, over the shoulder of which I expected them to pass, and waited. Like all deer, they hesitated as they ascended the first rise, and strung out sufficiently to separate individuals. As they ran up the opposite slope I noticed one stag with very good horns and kept my eye upon him. Fortunately he stood clear as the herd halted for a moment, and I fired at him at a distance of 300 yards just as he stopped. This was my lucky day, for I heard the bullet "clap" loudly on his flank and had the satisfaction of seeing him lag behind and then stagger slowly out of view as the herd disappeared.

I now found Ole at my elbow pouring forth congratulations in an excited voice. He had heard the last bullet tell but knew nothing of my first two shots, which had been out of his view. His astonishment was delightful to witness when we walked down to the long-horned stag and then saw the legs of the second sticking up amongst the rocks below. We just did the usual dance and sang a pæan of victory; then we descended the hill and looked carefully over the ridge of the further hill, and there lay No. 3, quite dead. For once everything had gone as well as we could have wished, and I had killed three heads of Norwegian reindeer, as good as one is likely to get nowadays. No. 1 was 54 inches long, with thirty points; No. 2, 48 inches long, with forty-three points; No. 3, 50 inches long, with thirty-six points.

Ole took two heads on his back and I one, and the distance to the hut seemed very short. My hunter spent the rest of the day attending to the meat for himself, whilst I cleaned the skulls of the stags.

It did not take very long to discover that we had found and lost the only herd of reindeer in the neighbourhood. As each day succeeded without showing a single fresh track we began to give up hope that anything shootable would be found within a limit of twenty miles of the stone hut, and I had some idea of abandoning the hunt, being quite satisfied with the heads already obtained. But the mountain air was glorious, the scenery grand if

THE REINDEER AND ITS PURSUIT

a trifle monotonous, and the comfort of the stone hut for once all that could be desired; so that I was induced to spend the pleasant days in sketching, reading thrilling tales of flood and field, and practising my indifferent Norse. It was now just a pleasant little holiday of rest and refreshment with reindeer only as an obscure possibility. The days wore on until the 12th, and I began to get things together prior to departure when, just after daylight, Henrik, Ole's son, suddenly dashed in, upsetting everything in the doorway, to say that five big bucks were at the moment galloping along the ridge above the hut.

I had just time to get my glass on them, before they disappeared from view, and ascertain that the little troupe consisted of four small and one very large stag with good horns. There was just a chance that they might settle in one of the corries to the west. If I had been twenty-five I should have rushed after them at once, but, being nearly double that age, I sat down and had a good breakfast, with the recollection of a certain morning in Newfoundland, when, without having taken food, I ran two miles to cut a travelling stag and fainted in consequence.

Thus well prepared, Ole and I sallied forth to try and track the travellers. We soon picked up the spoor on the ridge and followed it with ease for three miles or so, although the ground was very dry. The stags had been galloping all the time and had doubtless been disturbed that very morning away to the north, so we knew that we were in for a long if not desperate chase.

The deer led us into some rough ground, too rough and stony, in fact, even for these hardy mountaineers to traverse in comfort, and here the tracks became difficult to follow. We should, I think, have lost them had not Ole cleverly spied where the game had crossed a snow-brae about half a mile ahead. For this we made in all haste and soon got on to good tracking ground again, after crossing a range of hills. The deer were now walking, and I proceeded cautiously, often stopping to spy, and this policy at last had its reward in my picking up the five stags just as they topped another ridge about a mile ahead. We now hurried on to the spot where we had last seen them and, looking carefully into the next valley, I at once saw the deer lying down on a steep slope of loose stones facing us.

The big stag had his mouth open, for the pace at which he had travelled seemed to have had some effect upon him. I hoped, therefore, they would continue to rest in this spot whilst we made a wide circuit to head them

THE GUN AT HOME AND ABROAD

and come in over the top of the hill where they lay, the wind being favourable.

This last circuit was somewhat trying. Ole kept racing ahead with true Norwegian impetuosity, as if he intended to brain the deer with the stout staff he always carried. The Norse character is a curious mixture of phlegmatic indifference and mad, unreasoning haste, and that is why there are such few good hunters amongst them. At most times Norwegians make a fine art of laziness, but in sight of game or when inflamed by music or drink they seem to lose all control of themselves and to do just those things that an experienced hunter should avoid—even, too, when they have had great experience in the chase.

Ole, old hunter that he was, was no different from the rest, and I dreaded what he might do if we should happen to get near game.

After an hour's hard work I calculated that we were within 300 yards of the stags, so I deposited Ole behind a rock with strict instructions not to move until he heard the shot. Though at least fifty-five years of age he now trembled all over from sheer excitement. If my dispositions were correct the deer lay about 150 yards from the top and near the bend of the hill in the wind and facing the east, wherefore I topped the hill very carefully in slanting fashion and crawled eastwards for some 200 yards. At this point I suddenly became aware of a puff of wind at the back of my ears and at once retreated. Whilst doing so I heard the clink of falling stones and, rising up, was just in time to see the last of the stags spring from his bed and move out of sight.

By a piece of fortunate judgment I thought the stags might follow the shoulder of the hill and show on the other side, so without hesitating I dashed straight up the hill and for some distance down the other side. This view proved to be correct, for, just as I seated myself against a rock, the five stags appeared below in full flight.

The four youngsters presented an easy broadside at 100 yards, but to my chagrin I could only make out the line of the back of the big stag which came last. Fortunately, however, he was clear from the others, and as he came opposite my position I fired and made a very lucky shot, breaking his backbone in the centre.

Ole flew down the hill like an unleashed greyhound and got hold of the stag's horns before he could roll any distance and seemed to enjoy the pleasure of plunging his long knife into the breast of the struggling beast.

THE REINDEER AND ITS PURSUIT

The horns of this stag were not so good as those of the first three, but carried an unusual number of small points, thirty-four. The length was 48 inches and the tops were also heavy and long.

Thus ended a most successful hunt.

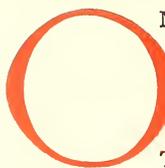
Recently I have heard that the tame reindeer, to the number of 5,000, which have been quartered at the east end of Lake Tyin and at Maristuen have increased to such an extent that 500 have been driven up to the Gallopegin ground, where huts have been built for the Lapp watchers. This means an end of the wild reindeer on the Jotunheim.

Going to Christiania through Valders, I witnessed the unusual spectacle of numbers of dead birch and rowan trees killed by the drought. Such a sight was unprecedented in Norway. The most melancholy man I ever met was an Englishman who had taken an upper beat on the Laerdal, usually one of the best rivers in Norway for this season. He had been there looking at a mass of dry rocks for two months and when I asked him about sport he said, "I hope to see a salmon when I get back to Bond Street."

Wild reindeer at large are now every year becoming scarcer in Norway except in Stavanger Amt. It is a pity that the Government does not reserve large tracts for game preserves, for sportsmen would gladly pay handsomely both in rent and taxes for the privilege of killing a good buck or two. Most of those now shot are only half wild ones escaped from the Lapps, and many are still more tame.

The tale is told of a well-known English sportsman who had sworn by St Hubert that he would slay none but absolutely wild reindeer. A season or two of fruitless search rather damped his ardour, but at last his eyes were gladdened with the sight of a splendid buck far up on a remote and isolated icefield, and off he went in pursuit. Three days were spent in this way before a successful stalk rewarded his exertions, and then, in wild delight, he rushed up to gloat over his prize. "A wild one at last!" he exclaimed, but on taking off the head and neck he nearly fainted, for under the hair he discovered a most beautifully worked collar of beads! At length, having recovered from the shock, he started off again with renewed hope. Days passed without any result, until at last, in a still more lonely position, he discovered another reindeer, not a very fine one, to be sure—it looked a bit meagre and underfed—but as the guide protested by all the deeds of Odin and Thor that this at last was a genuine wild animal, a careful stalk was made, the sportsman fired, and the luckless beast fell over—on the top of the Lapp girl who was milking it!

RED DEER, FALLOW DEER & ROE

ON the Continent of Europe red deer are found in Spain, Portugal, France, Germany, the whole of Austria and its dependencies, the Balkan States, Turkey, Austrian and Russian Poland, Denmark, Sweden, Norway and Russia as far north as the forests just south of St Petersburg. There are also a few in the islands of Corsica and Sardinia. The same animal is also found in North Persia, the Caucasus, Asia Minor and North Africa; but at present we are not concerned with these nor with the race inhabiting the British Islands, which have been fully dealt with in a previous volume of this series.

In all the above areas of Europe the red deer is one and the same animal, merely differing in size, the smallest being those of Sardinia and the largest natives of Asia Minor and the Eastern Carpathians. The Sardinian race is in reality a dwarf one, having very short legs. I have only seen one living example (recently in the Zoological Gardens, Berlin), and as it stood at the side of the cage it measured 3 ft. 4 in. at the shoulder. A large Carpathian stag, weighing 33 stone, which I killed in 1910, was 4 ft. 8 in. at the shoulder.

The Caucasian race is distinctly spotted and very red in summer; whilst all the European races, including those of the Carpathians, are not spotted in summer but are a uniform red on the upper parts and flanks, being grey on the under parts, neck and flanks. Nearly all the continental races are grey brown or very dark grey, and black on the belly, but some examples are grey underneath and yellowish round the testes. Some are quite grey on the face, others very dark brown, and others again deep red on the forehead and cheeks.

In 1910 I had the good fortune to examine twelve East Carpathian stags' heads and necks that had just been shot, and they presented every variation to be found in wild Scottish stags, from light grey to deep red. All these deer breed together, and there is no foundation in fact for the two-race theory of Carpathian deer. The same also occurs throughout Hungary and Germany. The French and Spanish red deer are lighter in colour and more slenderly built.

In size the Sardinian race would not weigh more than 9 stone (British sporting weight, clean); Norwegian, 16 to 22 stone; Spanish and French, 16 to 20 stone; German, 18 to 25 stone; Hungarian, 20 to 30 stone; and East Carpathian, 25 to 44 stone. The horns of Continental red deer

CARPATHIAN STAG

PLATE LXXI.

THE FUTURE OF THE WORLD



The world is a vast and complex system, and its future is uncertain. It is a system of many parts, each of which is essential to the whole. The future of the world will depend on the actions of all of these parts, and it is our duty to act wisely and justly.

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RED DEER, FALLOW DEER & ROE

are usually of a simple type, carrying twelve to fourteen points, but where conditions of life are good, and the hinds are shot hard or killed by wolves, the best heads show great complexity of the crown of the antlers. In France and Spain the horns are thin and seldom longer than 40 inches, only the very best carrying fourteen to sixteen points. In Norway they are thicker than Scottish but seldom carry more than ten points, though I have seen several of twelve and one of fourteen points, the greatest length being 40 inches. In Central Germany heads with a length of over 40 inches and with sixteen points are rare; but those of Rominten (East Prussia) and German Poland are often fine and carry as many as twenty and even twenty-two points.

In the magnificent collection of red deer horns at the Castle of Moritzburg, near Dresden, are the finest known examples of red deer. These were mostly killed in the sixteenth and seventeenth century. No exact particulars are known of these extraordinary heads, one of which has a span of 72 inches and carries twenty-six large points and weighs as much as the best (record) wapiti. In the Moritzburg collection are many other examples nearly equal to this and some have as many as thirty-six points, whilst one, quite an abnormal monstrosity, is credited with sixty points; although, according to our method of enumeration it would not have nearly so many. There are no modern red deer heads quite in the same class as the Moritzburg heads, if we except one shown in the Buda-Pesth Court in the great Vienna Exhibition of 1910; and even this cannot be called a "modern" head, for it was killed where the town of Buda-Pesth now stands.

It must be remembered that some of the Kings of Saxony who made the remarkable collection at Moritzburg were also Kings of Poland, where the best red deer always existed, as they do to-day, so it is fair to presume that many of the examples, if not all, came from Poland.

The best modern European red deer heads are usually obtained in Hungary, the marshes of the Danube, and the East Carpathians (Galicia).

In 1910 I spent five days studying and sketching the best heads in the Vienna Exhibition, in spite of the unwelcome attentions of officials, who chased me all over the place (sketching and photographing being forbidden), and it is not too much to say that such a collection of red deer antlers have never been nor will ever be brought together again.

Quite the gem of the whole exhibit (shown in the Moritzburg Court) was a fourteen-pointer with very beautifully perled horns, having a length of 48 inches and a weight with frontlet of 28 kilos.

THE GUN AT HOME AND ABROAD

I have never seen a red deer head to surpass this one, which has been recently acquired by the King of Saxony, nor could I obtain any further particulars about it. Two gorgeous creatures in blue and gold stood guard in the Moritzburg Court, and when I sat down to draw they firmly but politely obstructed my view of the great head. Bribery and persuasion being useless, I tried stratagem, and found that the good fellows had to eat like other people, and both went off guard one day at the same time. A policeman came and only regarded my efforts with superior amusement and left me just enough time to do my work, so I got a very fair picture of this head, which I present to my readers.

Apart from the so-called sixty-two pointer, whose points are I think over-rated, the most wonderful head in the Moritzburg collection is the twenty-four pointer, with a span of 6 ft. 3 in. This is wider than any known wapiti, whilst the head and frontlet must weigh at least 42 lb. In this collection are several with twenty-two to thirty-eight points, and full particulars and pictures are given in the fine monograph by Dr A. B. Meyer, so I need not particularize.

All the other red deer heads, even the best in the Galician and Hungarian Courts, were just a little inferior to these noble examples, yet both Galician and Hungarian exhibits showed three wonderful heads recently killed. The first prize of the Exhibition was given to a twenty-two pointer belonging to Prince Montennovo and shot in the Danube Marshes.

It was difficult to accept that this head was superior to a twenty-pointer from Hungary shown by Count Andrassy, and to two heads, one measuring 51 inches, shot by Prince Henry of Liechtenstein at Tartarow in Galicia. There was also the 49-inch eighteen-pointer shot by Mr Pick at the same place, a head of wonderful size and quality. Taken on the average, the best lot of heads at the same exhibition were those shown by the Archduke Frederick, shot at Bellye on the Danube. The stags of these marshes grow to a great size, with very thick and long antlers, though not with many points. The longest was 51 inches, but the average length would be about 46 inches, whilst many were over 48 inches.

It has, I think unfortunately, been the practice of recent years to introduce male wapiti as stock sires into many of the best Austrian forests and preserves, and this I think a great mistake when the deer were so good already. The result has been to improve the size of heads but to lose the great beauty of the red deer type of crown. So many of the Vienna exhibits had undoubted wapiti crosses that one had to exercise the greatest

RED DEER, FALLOW DEER & ROE

caution to avoid confusing these with true red deer. Austrian sportsmen of the best type resent this influx of new blood and declare that there are now few forests where it does not exist. The first crosses are easily recognized, but the second and third crosses are often difficult and sometimes impossible to detect.

Very few English sportsmen have had the opportunity to and do possess fine Continental red deer trophies of their own shooting. Mr E.N. Buxton was, I think, the first lucky man, and he killed a remarkable eighteen-pointer of 52 inches in length at Tartarow as a guest of Prince Henry of Liechtenstein in the year 1896. It is one of the five best heads ever shot there and has few superiors in Europe. Mr Rhys Williams killed a 52½-inch head in the year he rented the forest of Count Andrassy, and two other Englishmen, Mr Whitbread and Mr Oldfield, have each killed noble heads of 48 inches in Hungary. I possess a very heavy head of sixteen points and 54 inches' span, killed in the East Carpathians at Bukovina, certainly one of the best recent red deer heads and the gem of the late Viscount Powerscourt's collection; but, alas! I did not shoot it, though I have hopes that some day I may get a good one. Few Englishmen go to Hungary or the Carpathians for red deer. Good heads are, of course, rare, but they are, when obtained, far superior to the best heads from New Zealand, where so many sportsmen go.

The following table will give some idea of the best European red deer heads, exclusive of those in the Moritzburg collection.

CONTINENTAL RED DEER.
Hungary, Danube Marshes and Galicia.

Length.	Circ. above beam.	Spread.	Points.	Weight of Horns and Frontlet.	Weight of Stag.	Locality.	Owner.
53½	8½	—	16	23 lb. 6½	526 lb.	Zempler, Hungary	Count Andrassy
53¾	10	—	18	over 20 lb.	543 lb.	Tartarow, Galicia	H.R.H. D. Miguel Duke of Braganza
52½	6½	40	11	—	—	Transylvania	Rhys Williams
52	7·25	45	18	20 lb. 5	504 lb.	Galicia	E. N. Buxton
51¾	6½	—	18	19 lb. 1	—	Unghvar	Count Szechenyi
51	7	47	14	23 lb.	519 lb.	Zempler, Hungary	Count Andrassy
51	7	39	16	—	—	Galicia	Prince Henry of Liechtenstein
50¾	—	—	16	—	—	Hungary	Count Andrassy
50¼	6·08	55·9	21	21 lb. 3	—	Pilis Mountains	Duke of Ratibor
50	7¾	—	14	20 lb. 8	418 lb.	Bellye	Archduke Frederick
50	7½	48	18	—	—	Tartarow, Galicia	R. Pick
50	7½	—	10	—	—	Hungary	Count Szechenyi
49½*	—	—	14	31 lb.	—	Radauc	Prince L. Rohan

*The heaviest recently killed.

THE GUN AT HOME AND ABROAD

German heads seldom exceed 40 inches in length. There is one at Powerscourt of 42½ inches. The largest number of points found on any German stag is one killed by the Emperor of Germany. It is said to carry forty-four points, but many of these points we should merely regard as offers. This head was not shown amongst the German Emperor's trophies at Vienna in 1910.

CRIMEA SPECIMENS.

Length.	Circ. above beam.	Spread.	Points.	Locality.	Owner.
48½	6	41½ (inside)	11	Crimea	H.R.H. the Duke of Saxe-Coburg
43½	5½	—	12	Crimea	Earl of Dunmore
42½	6½	45	21	Crimea	H. J. Elwes
42	6	54½	19	Crimea	H. J. Elwes

NORWEGIAN SPECIMENS.

Length.	Circ.	Spread.	Points.	Locality.	Owner.
41	—	—	14	Isle of Hitteren	H. J. Elwes
34½	6½	34½	—	Norway	J. S. Brunn
34	—	—	7	Isle of Hitteren	J. H. Thomas

SPANISH SPECIMENS.

Length.	Circ.	Spread.	Points.	Locality.	Owner.
43	5½	35	12	Sierra Morena	J. M. Power
40	—	—	17	Sierra Morena	Abel Chapman

The mountain stags of Spain are the largest, those of the plains seldom exceeding 30 inches in length of horn.

The habits of the woodland red deer of Continental Europe are rather different from those of Scotland, where the animals have been forced to lead a somewhat unnatural existence in open surroundings. At one time the wild red deer of England, Scotland and Ireland were just the same in their habits, but new conditions have caused new habits to form.

RED DEER, FALLOW DEER & ROE

Except where the chase is made easy, as it is in many of the Hungarian forests by cutting immense rides along which carriages are constantly driven, to which the deer get accustomed and from which they are eventually shot, the sport of hunting the large red stag is one of the finest, as it is one of the most difficult in Europe. This I hope to show in the following pages. Centuries of hunting have made this fine animal extremely cautious, both in the choice of its habitat and in the use of its voice, and so the chances of success are reduced to a minimum unless Fortune and the conditions of the weather favour the hunter as it does in some seasons. It may be said, however, that perseverance and a knowledge of woodcraft will always win in the long run, for man is cleverer than any beast.

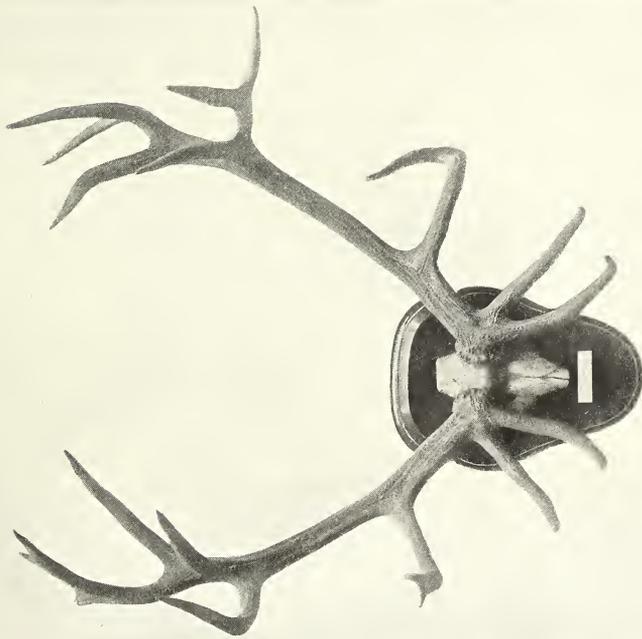
The common fallow deer (*cervus dama*) is naturalized or kept in large parks or park enclosures in many parts of France, Germany and Austria. Its general character and habits are similar to the animal now existing in the British Islands, which I have already described in a previous volume. The bucks grow to their largest size in Southern Austria and many of them in the districts of Southern Hungary attain great weight and carry fine palmated antlers. These are not, however, superior to the best British in this respect, the biggest shown in the Vienna Exhibition of 1910 being only 26½ inches. Enormous bags of fallow deer are shot annually by the German Emperor and his friends in large enclosed forests; but the sport is not of such a character as to appear attractive to British sportsmen, who love to pursue an animal in its unrestrained freedom. In Northern Palestine and Northern Asia Minor fallow deer grow to a large size and probably would afford excellent still-hunting to any sportsman who feels inclined to try his luck with them; but so far I have not heard of any hunters who have been there in pursuit of these animals. In a wild state the fallow deer, especially the old bucks, are full of cunning and resource. In a bush country they are quite the equal of their large cousins, the red deer, and a man must hunt early and late to surprise them in the little clearings where they feed at dawn and sunset. I think the species is extinct in North Africa, but a few are still to be found in Southern Sweden, Italy, Spain and Portugal, in a semi-domesticated state, and wild in Rhodes and Sardinia. They are probably extinct in Greece, where they existed until 1880.

Whilst the fallow deer can hardly be accounted an important beast of the chase in Europe, the European roe, *Capreolus capreolus*, may be considered one of the best of the smaller mammals that afford sport with the rifle. It is found in great numbers in some parts of Germany

THE GUN AT HOME AND ABROAD

and Austria and its dependencies, where it is preserved. That roe can exist without forests can be seen by any traveller on the train from Vienna to Galicia, where from the carriage windows numbers of roe can be seen moving about in the open fields where peasants are working. On numbers of estates in Slavonia, Hungary, Poland, Galicia and the neighbourhood of the Danube roe have very little dense cover in which to hide themselves, but are contented with the shelter of swamps, long grass, or rough depressions on the field edges. Here they often thrive as well as if not better than in the forests; for there are estates in Galicia, from which the finest heads come, where as many as sixty or seventy bucks may be shot with the rifle in the best months of calling and stalking—June, July and August. Roe exist in very large numbers on some of the islands of the Danube, for at the Vienna Exhibition of 1910 we were afforded the unique exhibition of 113 roebuck heads shot in nine days by a sportsman who not only showed the results of his prowess, but himself, suitably attired in hunting costume and clasping his rifle. For many days he sat on a couch amidst his trophies, affording as he did so, if not interest, at any rate no little amusement, to the sightseers. Most of these heads were killed from a canoe propelled by a keeper, whilst the shooter sat in the bows and picked off the best bucks as they fed on the water edge at morn or eve.

Many of the finest roe heads in that wonderful exhibition came from East Prussia, Poland, and Austria, and for the most part were far superior in length and perling to the best British examples; but by far the finest series of roe heads were those shown in the Swedish Court. European roe seem to reach their highest development in Southern Sweden, and examples shown by the Crown Prince and other hunters were quite equal, if not superior, to old examples from East Prussia, where in days gone by roe were of remarkable size. Perhaps the best example of a European roe is one now in the Museum of Cassel. It was shot by the Landgraf Ludwig of Oberhessen, near Marburg, in Hessen, on January 12, 1588. It is over 15 inches in length (12 inches straight) and bears sixteen points. This buck was probably old and diseased or it would not have been carrying its horns at so late a date as January 12, the usual time of shedding being November. Many of the Swedish examples, already referred to, were far more massive than this and much heavier, although none of them bore more than eight points, whilst the perling of many was very rough and carried well up the horns—a great beauty in roe—and the length would average over 13 inches. European roe extend as far east as the



A FINE CARPATHIAN RED DEER.

In the Collection of Sir Edmund G. Loder, Bt.



CONTINENTAL RED DEER.

Length 46 inches: Circumference of beam above bays 7 inches; Span over all 54 inches;
Points 16: Weight of horns and frontal 25 lbs.

In the Collection of Mr J. C. Millais.

RED DEER, FALLOW DEER & ROE

Central and Northern Caucasus, but there is a tendency of the species to merge into the Siberian form (*C. pygargus*) in the northern parts of those mountains.

A fair number of roe are found in France, where they are preserved and shot in winter battues together with pheasants and hares. They are also found in Spain, Greece, Tuscany, and North Palestine, and are common in Bosnia, Herzegovina, the Balkans, Turkey, Albania and Belgium.

I think that the so-called Chinese roe (*C. Manchuricus*) should be considered a sub-species of our European roe, for it differs only in the rich red colour of its summer pelage. I have skulls from the north of Pekin and Kansu, which seem in every way similar to European roe. The horns, too, are identical.

The character and habits of roe on the Continent are the same as those of British examples which have already been described.

Instead of being classed as an animal of low intelligence, such as the hare or the rabbit, as it is in the British Islands, the roe is treated in Germany and Austria in the way it deserves, that is, as a high-class beast of the chase. Large sums are paid every year by German and Austrian sportsmen to have the privilege of stalking this excellent little deer with the rifle, and its chase as now practised in southern forests and open lands is one of the best that Europe affords, coming as it does at a time of year when practice with the rifle on other game is not possible. Most of the bucks are shot either by still hunting at the hours of feeding or lured out of the woods by means of the call, which can be made to imitate exactly the amorous cry of the female. I have heard an experienced hunter copy the cry of the doe so exactly that its detection on the part of the male would seem to be impossible. Yet much skill and practice is necessary to attain efficiency in the art to make the male break cover and show himself. If a wrong tone is uttered at the moment when the buck is advancing he will at once detect the fraud and either stand and bark or retreat. There are very few really good moose callers in Eastern Canada, just as there are few expert roe callers in Germany and Austria; but once the art is learnt the interest of roe-calling is far superior to that of attracting the larger beast, whilst the target is a much smaller one to hit and the shot more transient. As a matter of fact the sounds emitted by the caller are of considerable variety and are intended to evince the growing desire of the female to pair. These have to be uttered in different intonations as the male is advancing. Sometimes quite a loud yearning note is given to attract the male in the first

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instance, and this is gradually subdued into short gentle plaints or again raised accordingly as the buck hesitates or comes on. Of recent years the horns of Continental roe, except those of Southern Sweden, have deteriorated greatly, probably owing to the great increase in the number of the animals. The average length of those of a good buck is not more than 9 inches. The sport of stalking roe with the rifle is not understood in the British Islands, and therefore I would strongly recommend any of my readers who love those pellucid early mornings with the rifle to take for a season one of the many roe shoots that are always to be let in Austria or Galicia during the summer months, and I do not think he will be disappointed.

RED DEER HUNTING IN GALICIAN FORESTS

THE more a man hunts wild animals the more he finds how variable is the difficulty or ease of success according to the nature of their surroundings. A creature that has the reputation of extreme shyness and difficulty of approach may be rendered a comparatively easy victim if forced into a habitat that is not chosen by itself and where most of its clever tricks and artifices to preserve life are nullified to such an extent that its pursuer finds its capture easy. Let us take the case of the red stag, for instance, and see how it is hunted in Europe. I began by stalking red deer for five seasons in the Forest of the Black Mount, by far the finest as well as the most "difficult" forest in Scotland, and can say with truth that during that time I only once obtained an easy shot. In the great open and shaly corries of this part of Argyllshire it is possible for a hunter, accompanied by the best stalkers in the north, to see large numbers of deer every day and not fire a shot for a week. By no possibility can a chance be obtained or an approach made nearer than 300 yards on some of the beats when the wind is in the north, and when you do get a chance it is sure to be a long shot and most likely a quick one. Now this is very high-class, open-ground stalking, and the way it should be. Since those days I have killed numbers of Scottish stags in many forests of Scotland, and have generally found them far too easy to kill, and now I find that every year the sport is becoming easier and more luxurious and more surely robbed of its finer points. In the western islands deer stalking has little more difficulty than shooting stags in a park, for I once killed seven stags in two days in North Harris after such easy and certain stalks that one felt almost ashamed to shoot the poor beasts; for I could easily have shot double the number had my kind host allowed me to do so. In Germany most of the grand heads seen in the annual exhibitions are killed under circumstances which can only be called the outcome of wealth and careful nursing. Such methods seem ridiculous in the eyes of true sportsmen. Even in Austria several of the forests where the best heads are obtained are "shot" from carriages. The guest is driven in a vehicle along tracks through the forests. From his high seat the forester points out the stag, which is quite accustomed to the sight of carts, etc., to the shooter, who stands up and obtains an easy

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chance. All this is done without walking a yard or employing one artifice of woodcraft.

The best class of sportsmen in Austria, however, scorn such methods and love to stalk the roaring stag in the primeval fastnesses of the great forests, where the chase of red stag is, in most cases, by far the most difficult of all European sports with the rifle. Even the chamois and the moufflon are not so hard to kill as the great stags of the Carpathians, most of which live on from year to year in the inaccessible places they have chosen.

The grandest of these forests, and one that has within the past fifteen years produced some of the finest heads in Europe, is that of Tartarow, in Galicia, which is rented by Prince Henry of Liechtenstein from the Austrian Government. It is difficult to say how large it is, but roughly it may be said to be 400,000 or 500,000 acres—i.e. about as large as Sussex—a vast area of virgin forest covered with immense firs as well as beech and other deciduous trees. In summer cattle and goats graze on the little green alps, or polankas, which run up to 5,000 or 6,000 feet; but after September 1 these are deserted by arrangement with the peasant tenants, and all is quiet by the time the roaring season commences on September 15.

In such a domain it might be thought that with careful preservation and good feeding deer would be numerous, but such is not the case. There are many reasons why the ground cannot hold a big stock, the principal being the severity of the winters. Other causes are the narrow limits of the feeding grounds, destruction by wolves, and poachers. These tend to keep the stock low and high-class, for it is well known to naturalists that the more deer are harassed the fewer they are, and that the smaller number of hinds each "master" stag obtains, the better the heads will be. Accordingly, Tartarow is a forest of quality and not quantity.

The average Tartarow stags carry heads of twelve to sixteen points, with a length of about 40 inches. The head with the largest number of points killed in this forest carried twenty-two, but Prince Henry has seen one head killed in the West Carpathians that had twenty-eight. The largest head is 52 inches, but it is not one of the best. The heaviest stag shot was weighed not only clean but when cut to pieces, when it would have lost at least 30 lb. in blood. This remarkable animal weighed 279 kilos—i.e. 558 lb.—a weight equal to that of a good wapiti male. Several others have exceeded 250 kilos.

Between the years 1894 and 1909, 303 stags have been killed; the best

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year, when the stags called well the whole season, was thirty-seven. The winter of 1909 was the worst experienced in the forest, and from this the stock has not yet recovered. Fifteen hundred deer were found dead, of which 600 were stags, mostly immature.

A Highland stalker might lift his eyebrows with scorn or surprise that nine experienced rifles killed only seven stags in the season 1909,* but then he does not understand the conditions of sport and its difficulties; but when you have experienced them yourself you will regard hunting in Galicia at a much higher level than that in any Scottish forest. Think, too, of the chance—and there always is a good chance—of killing a stag with a head almost as good as a wapiti. In nearly every beat you visit there is such a stag, carrying from fifteen to twenty points. You will hear him roaring and probably stalk him several times; and one day the wind will blow a little differently or the stag may make a false move, and he is yours. Then you will have something worth remembering and looking at upon your walls for the rest of your life.

Prince Henry had been so kind as to invite me to Tartarow in 1908, but I was away in Alaska hunting other beasts, and so could not go. But in 1909 he again repeated his invitation and I was delighted to accept. After a flying visit to Berlin, where I had some work to do in the museum and zoological gardens, I arrived in Vienna on September 12.

Having once seen Vienna, it is a matter of surprise that more English travellers do not visit this queen of cities. I have never seen anything to compare with it. The magnificence of its streets, all laid out with a sumptuousness and good taste that call for constant admiration—the artistic grandeur of the cathedral, the arches of the Kolchmarket, the Emperor's Palace, the Swartzenburg, and, most of all, the perfect Belvedere Palace, are more worth seeing than anything in England or France. Everything in Vienna seems to have been done on the grand scale, and her architects and past Emperors were men of noble minds, whose one consideration was to make their city beautiful. Wealth and taste here are happily married, and the result is a never-failing joy to the artistic. In this flying visit to the city not the least interesting experience of my brief stay was a visit to the Liechtenstein Gallery, under the guidance of Prince Franz, who knew all the pictures and evidently loved them. This gallery is said to be the finest private collection of pictures in Europe, and as the work of certain

*Count E. Hoyos, one of the most experienced sportsmen in Europe, only killed one stag in an adjoining forest in 1909.

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artists—Rubens, for instance—it is without doubt supreme. But what the eye rests upon with most delight is Franz Hals' masterpiece of the Dutch Burgomaster, a common enough fellow indeed, but in the hands of the master a figure of distinction, looking as if he would like to eat you up, and two portraits of Vandyk that I could have stared at all day. For the Dutch Burgomaster the Prince of Liechtenstein had recently been offered a million crowns by a dealer, but happily it was refused, and this priceless treasure will remain in Vienna, one hopes, for all time.

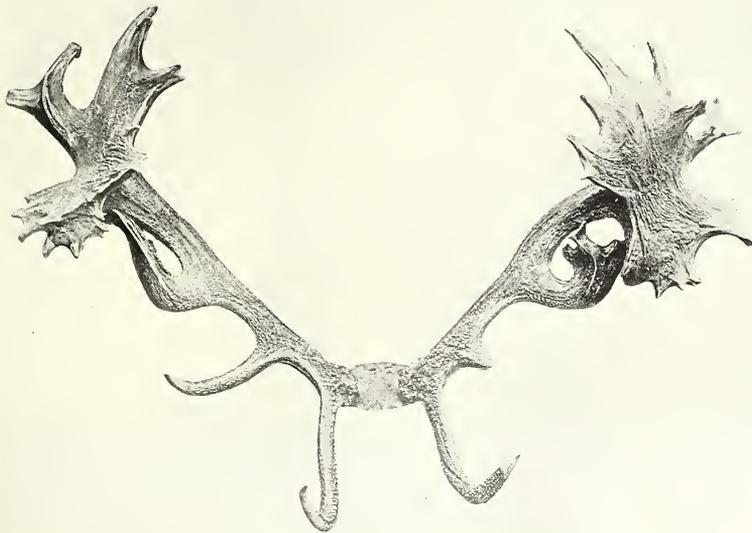
On the 14th our party assembled at the Nord Balin Station and travelled eastwards all day over the fertile plains of Moravia and Silesia. About one hour from Vienna are situated some of the greatest partridge and hare lands in Europe, and our host pointed out an estate where he had seen 3,000 hares and 250 brace of partridges (birds that broke back over the guns only being shot) bagged in one day. About the Polish frontier we saw troops of roe standing in the open fields on the property of Count Larisch, and darkness closed in at the old city of Cracow, where troops of Polish natives, fresh from the Hungarian harvest, and long-coated and top-hatted Jews were seen on all sides.

After a comfortable night in the train we awoke at seven to find ourselves in the main Carpathians, the line winding its tortuous course up rocky streams situated in fertile valleys beneath great forests. At nine we reached Tartarow, where a swarm of wild-looking Galicians, with long hair and clothed in their picturesque national costume, met us and seized upon our luggage like so many bandits, each fighting to have the honour of carrying a package. Carriages were in attendance, and when the driver made a deep obeisance and covered your hand with kisses you felt that you were in some new land beyond the range of commonplace conventions.

The hunting lodge of Tartarow is a modest, rambling affair of no architectural pretensions, but admirably suited to the housing of sportsmen and their retainers. It is situated on a green flat, overlooking the swift river, and overshadowed by frowning hills, densely covered with spruce trees. The garden was gay with flowers tended by the hands of the head forester's wife, and out on the little grass plot in front were the dropped horns of stags gathered from the forest during the past season, so that we could see what kind of game was awaiting us. In the house itself, and covering the wooden walls, was a fine collection of frontlets and antlers shot by our host and his guests during the past thirteen seasons. Also a few re-



24-POINT RED DEER HEAD. Said to be the largest in existence.
In the Moritzberg Collection.



THE (SO CALLED) 60-POINT RED DEER HEAD.
In the Moritzberg Collection.

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markably good models of the very best, the originals of which the Prince always gives to the successful stalker. Some of these are truly magnificent specimens, such as the eighteen-pointer, shot by Mr Rudolph Pick, the artist; the broken head with nine points on the left horn and 49 inches long, shot by the Duke of Braganza; the thirteen-pointer, 47 inches long, shot by Prince Alten Sachsen in 1896; the seventeen-pointer, shot by Mr E. N. Buxton, etc. But to my mind the two best heads are a perfect fourteen-pointer and a very large fifteen-pointer, 51½ inches long, shot by Prince Henry himself, and now hanging in his study at Vienna, of which I give sketches. These are quite ideal red deer heads, and have few superiors amongst heads killed in Europe in recent times.

It is curious to note that most of these giants have fallen to the rifle of the hunter not by the ordinary methods of approach, but by some curious incidents in stalking, which can only be termed "flukes," or "hunting luck." For instance, Mr Pick got his big stag by an extraordinary piece of good fortune. He was asleep on a high alp at midday. The chance of a shot was next to impossible, when he was suddenly awakened by the clash of horns. There, on the open green, not thirty yards away, were the two master stags of the valley, both eighteen-pointers, engaged in deadly strife. Of course he seized his rifle and shot them both in a moment. Prince Alten Sachsen was also asleep one day when a small dog he had with him came and licked his face. He woke up to chide the hound and saw the splendid thirteen-pointer walking along a path opposite to him. Prince Henry was toiling up a steep slope one day through fallen timber when he saw a vision of horns on the other side of a log just in front. In a moment he leapt on to the log and fired at the "brown," himself falling backwards head over heels after the effort to recover his balance. He did not think the stag a remarkable one, until he came to examine it, but it is the rough fourteen-pointer here figured, and a head any sportsman might be satisfied with were he never to kill another. And so many tales could be told of how fortune comes to the man who least expects it, whilst the fickle goddess often scorns the man who works hardest and even possesses the most hunting skill.*

After an inspection of dropped horns gathered in the previous spring, amongst which there was nothing remarkable, we spent the afternoon in a study of the map of the forest, when certain features of the various

*An intimate friend of mine, who is an excellent hunter and hard worker as well, has been to Canada four times to try and kill a bull moose. He has had the best guides, has gone to the best places, and spent the whole season in the woods, yet so far he has never seen one.

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beats were explained, and the means of getting to them. In the evening, after dinner, the head forester, a Bohemian named Winter, is called in and gives a general report of the whole forest, and he is followed by a procession of wild and odoriferous Galicians, who in turn enter the room with a low obeisance, and after kissing the Prince's hand and those of many of the guests with whom they have stalked in former years, proceed to give a report somewhat as follows:

"The season is late, honoured Prince, and the stags are not calling much by day as yet. The old eighteen-pointer that has been for ten years up on the heights below the frontier moans a little at daybreak, but will not roar in this warm weather; he moves but little and has three hinds with him. I have seen him once in his bath (*cupola*), where he goes sometimes at seven in the morning. His horns are very large (*veliki-veliki*), and he is very cunning. He keeps to the thick forest, and if it will please his excellency to give me orders to cut a small path across his daily travel I think we will kill him some day. Along the hill by the beech grove (*bukovina*) another big stag is calling all day. He is answered by another stag that has six hinds that lives on the slope of fir trees opposite. But the place is noisy with sticks and leaves, and he moves not from there, so we cannot approach. Sometimes a small stag comes over the hill from Blazow and makes all cry, and there is the big fourteen-pointer that stays ever on the hill at the bottom of the Polanka. He whom we have hunted so many times and cannot see, he calls not except at night and lives amongst the raspberries. Two large bears are coming every evening to the dead horse which your Highness desired me to shoot and lay amongst the rocks at the side of Fededzyl, and another bear lives at the end of the beat by the high mountain.

"I have killed three wolves in the winter with the traps. All is quite so . . . (*tack*)"—and with another low bow he disappears amidst an atmosphere of Hungarian tobacco and wood smoke.

It is all very mediaeval and charming, but the subservience of the peasantry is not degrading or cringing. On the contrary, their humble attitude of mind is born of respect and affection for their master, just as their courtesy to any stranger is natural and unassumed.

On September 17 we all left for our various beats. After going for an hour in the train I find my hunter, Ivan Mocherna, with the horses and seven other followers awaiting my arrival at the station of Wononienka. I rode one horse and my baggage was placed on the other, and with the men carry-

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ing their own supplies and my dinner for the night we soon left the little village and ascended the low hills, here intersected by cattle paths and covered with large forests of spruce, sycamore, rowan and birch, with a few hazels and beech trees. The ground and steep banks were covered with raspberries and enormous fields of willow-weed that grew seven feet high in great masses, both being a favourite food of the red deer. In more secluded nooks were quantities of beautiful ferns of various species. Here and there were open spaces covered with long grass. In the open sunny glades the gorgeous Camberwell Beauty flitted over our heads, sailing along in stately beauty, whilst at intervals throughout the month I noticed, both in the higher Alps and lowland valleys, a few Red Admirals, Common Painted Lady, Brimstone, and Clouded Yellow butterflies.

After a pleasant ride of five or six miles we plunged into a dense forest amidst noble spruces over 100 feet high, and came upon the little wooden kolibas which was to be our home for the next few days.

The day was still young, and as Ivan showed his keenness to be off at once to the hills, we snatched a hurried lunch and proceeded up an old hunter road towards the Hungarian frontier. After rising a few hundred feet we diverted up a rough hill track and soon found ourselves on a small elevation commanding an extensive view of a heavily-wooded basin on the upper slopes of which dwelt a splendid twenty-pointer, well known to the hunter and many others who had unsuccessfully tried to stalk him in former years. We had been seated for about an hour in the blazing sun when a loud grunt emitted by the stag came towards us and imbued us with some hope that his majesty was about to call, but it was only a false hope. For the next three days, morning and evening, Ivan and I watched that slope and never heard another sound. After each long wait Ivan would spread his hands and lift his eyebrows in pathetic apology, as much as to say, "I can do no more. In such weather as this stalking is impossible." The weather, in truth, was perfect for everything but stag-hunting. Day after day the sun rose and set in a blaze of glory and continued so for the rest of the season, much to our disappointment. We yawned on logs and sat and watched the birds, which were numerous and interesting, snoozed at midday on pleasant green alps, or wandered in the damp woods and watched the bathing-place of some great hart in the hope that he would come to enjoy a roll in the mud, but nothing happened. We heard no more sounds than the pipe of a Hungarian shepherd up in the forest tootling away at morn and eve to cheer his goats. On September 21 we moved

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camp and hunted at daybreak above the valley of Warochta, where another great stag lives; but he, too, valued his skin too much either to call or to visit the open raspberry slopes, which we searched industriously when it was light enough to see. We had, it is true, one moment of intense excitement. The gillie was watching down the hill to our left, when by his gesticulations we observed that he had seen something. As I approached him he put his hands to his head and outstretched his fingers, indicating noble antlers with vast numbers of points. I seized my glass and saw nothing but a fine roebuck passing rapidly through the tall raspberries on the slopes below. It was only a glimpse, and then he vanished. At the same moment the crunching of sticks was distinctly to be heard in the woods behind us, showing that some deer at least had been approaching the forest edge and had got our wind. Subsequent examination proved these to be a hind and a calf. Roe are fairly numerous and very large in the Carpathians. Their skulls show them to be finer animals than those in Germany, Moravia, or Silesia, and the horns are strong and well developed, but not quite so fine as those frequenting the open plains of Lower Hungary, where they grow to a great size. A young two-year-old buck, shot by Prince Lowenstein at Tartarow, weighed 72 lb. clean, so that adults, of which no weights seem to have been taken, must be far beyond the average of Continental roe. I came across another splendid buck about ten days after this, and would have shot him had I not been following a calling stag at the moment, which I feared to alarm.

A subject of never-failing interest in the Carpathian forests is the number of small birds. For the most part they are the same as our English ones, but are altogether larger and more brilliantly coloured. Here the robin and the hedge accentor and the common wren are natives of the forest solitudes, and were pleased to see a man, as if to show that his presence was once a natural adjunct to their surroundings. They seem to have little fear of human beings, and sing close at hand or hop around at lunch-time in the hope of picking up some crumbs. Almost the only warbler left at this season is the chiff-chaff, which on fine days sings almost as clearly as in the English spring. It imparts a certain air of hope into life just as it does at home. Crowds of thrushes, blackbirds, ring ousels and fieldfares pass all day in the course of their autumnal migration; and as you sit on some forest point it is not long before large flocks of coal, marsh, crested and longtailed tits, the last-named with a large bill and a white head like the Scandinavian form, come tripping by with

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their usual attendants, the nuthatch and the tree-creeper. Once or twice on the edge of cultivation I observed a black redstart hawking flies about the wood piles and darting away into crevices at our approach, its brilliant scarlet tail flashing against the shadows. One day at Wononienka I noticed a most interesting migration of lesser kestrels. The little falcons were passing south in small parties of ten to twenty in number, all keeping the same line and the same distance apart. They continued to pass for four hours, when some hundreds must have gone by. It was the first time I had seen this beautiful little raptorial, and it surprised me to see that they moved in flocks. Almost every day I noticed parties of jays whilst down in the valleys, Hooded crows were abundant. Every morning and evening, too, one heard the clear whistling cry of, and occasionally saw, the little spruce grouse. They responded freely to the same call, admirably imitated by the Galician hunters, who kill large numbers for the Prince's table. I have no hesitation in saying that the Carpathian spruce grouse is the best bird to eat in the world, not even excepting our own native species. It is always tender, and has a delicious forest flavour that is difficult to surpass. One soon tires of woodcock, snipe and golden plover, all excellent birds in their way, but their excellence is much over-rated. There is no foreign species of game bird, with the exception of the great bustard, that I would sooner see introduced into British pine forests. It will thrive in the same ground as capercailzie, is perfectly harmless to timber, quite hardy in the severest weather, and could fill a gap in many places where game birds do not exist at all.

But the birds *par excellence* of the Carpathian forests are the woodpeckers. Three species are constantly in evidence, namely, the intermediate form of the great spotted, the hairy, and the great black woodpecker. All day long you heard them busy tapping from early morn till eve. Being very tame they are more easily studied than our woodpeckers at home. The great black woodpecker is very numerous, and is without doubt one of the finest of European birds. When flying it has a most peculiar note, somewhat resembling the noise emitted by a brake being applied to a luggage train, in fact, a series of raucous screeches. On alighting on a tree it remains still for a moment and utters a long-drawn plaintive cry several times. Then it gets to work in a hustling, businesslike fashion and makes the rotten wood fly in all directions. I have observed both this species and the hairy woodpecker descending a tree backwards for several yards. When doing so they assume a peculiar position. The tail is spread and held

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outwards, so that it may not come in contact with the bark of the tree. In the act of performing this the bird has a curious appearance.

During the morning of September 21 I had a pleasant walk down the hills to the picturesque village of Warockta, where the peasants were holding one of their religious festivals. Hundreds of young Galicians, all dressed in their picturesque national costume, were kneeling in the grass outside a lovely old church, built in the old Hanseatic style, such as one sees in the famous old wooden churches of Norway. After service they thronged the roads, laughing and shouting; some few of the more devout praying before some wayside shrine or cross. In passing they greet strangers with well-mannered courtesy, saying, "Slava," the first part of a sentence meaning "The Lord's Name be praised," to which you are expected to reply, "Ra-vwiki-veikaf" (In all Eternity). Sometimes they simply remark "Zan dobra" (Good morning), or "Dobra nocte" (Good night), as the case may be.

In the afternoon I rode six miles to Tartarow, where the party had reassembled. No one had had any luck except Prince Franz, who had shot a small stag, whilst Prince Louis had seen a bear. Next day I rose at four, and, accompanied by Prince Lowenstein, we went two hours by train to Neidvorna. Here we changed, and taking a small railway used by the timber company travelled across a great plain into the heart of the mountains at Zeilona, where the river Chrepeloo debouches from a rugged and mountainous country. After a ride of another hour we reached the main Koliba amidst grand scenery. In the afternoon the Prince and I hunted on different sides of the valley without seeing much sign of deer, so it was decided that I should ascend the hills on the following day to the distant hut of Zazeiket, Prince Lowenstein remaining at the base, which is so comfortable that it is known as the "Palace Hotel." My companion, I found afterwards, had insisted on my going to the high ground, as he thought it was the best chance, a piece of unselfish good sportsmanship which seemed to prevail in the hunting traditions of Tartarow.

Keranuk, my stalker, was somewhat of a character. A perpetual twinkle of amusement lurked in his eyes, and a self-satisfied dignity betrayed the importance of his calling. He made rather a noise when he walked, and if he dislodged a pebble he would turn round and frown at me. Once, when approaching, he slipped to the earth with a crash, and promptly turned round and cursed "Henry," the gillie. Henry's real name was not Henry, but I thought it best to call him that, for the real appellation was like two



Length = 47
 Length of L = 51 1/2
 Greatest diam = 54 mm
 Points = 17
 Feas. Circ = 62
 Length of Horns = 19 mm

Taster
 of Galicia
 Shot by Prince Henry of
 Liechtenstein

J. G. Millar
 1891

From a Drawing

by J. G. Millar.

RED DEER FROM EAST GALICIA.

Shot by H.H. Prince Henry of Liechtenstein.

PLATE LXXIV.

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tom-cats fighting—just a few Z's with a pleasant sprinkling of Y's and H's, but quite unpronounceable to anyone but a Ruthenian. When Keranuk broke a twig he would say, "Pomalo" (Go softly). I do not mean to suggest for a moment that Keranuk was anything but an excellent stalker. He certainly went through woods more quietly than I, but his little mannerisms were of such importance that he amused me immensely.

On September 23 we left the "Palace Hotel" at three and ascended a steep slope covered with raspberries and loose stones that grated beneath the feet. Just as we approached the higher parts of the forest a big stag commenced to roar splendidly on the edge of the timber, and the wind being right it was necessary to get off the stony ground and gain a quieter approach. In doing so Keranuk slipped and fell several feet, making a loud noise, and almost immediately afterwards a large hind arose out of the valley and dashed into the forest towards the calling deer. Of course, silence followed and our stalk was over, yet I could hardly accept Keranuk's sarcasm as merited when he pointed, more in sorrow than anger, to my boots.

At midday we reached Zazeikit without further incident, and spent the evening on the high ground watching a great open slope where the trees had been cut. Just at dusk a stag commenced to roar away to the left, but as the distance was too great to overcome before darkness would overtake us I declined to essay the stalk, and counselled patience till daybreak, when I hoped the stag might retain the same position. In the morning, however, he had gone. During the night Keranuk reported five stags as roaring round our position, but the deer were quite silent all day, so on the 25th we moved downhill to the place where we had heard the stag two days before. On our way thither, at about 5 p.m., we heard him bellowing away in the thick forest to our left, so I left Keranuk to "roar" on his shell to keep the stag excited, and essayed the stalk in company with Henry. The stag was on a ridge about a quarter of a mile distant, and to reach him we had to descend a perfect forest of windfalls. Enormous fallen trees blocked our way at every step and we had to climb in and out of these moving giants as noiselessly as possible. It was hard work for some ten minutes, and when we reached the little stream at the bottom the stag was still calling in splendid voice. The wind was blowing across our front, so I now determined to leave Henry and make a slight detour so as to come up wind on our quarry. This I started to do, but the gillie came after me and by signs intimated that the stag was moving fast up wind. Stupidly, as it

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turned out, I yielded to his advice, and had not proceeded far when all sounds in front ceased, and I knew that the game was up. I lay for a quarter of an hour and then found that the wind curled upwards at this point directly towards the deer and had given him the wind. It is this fatal curling of the wind that spoils twenty-nine stalks out of thirty, for the stag nearly always chooses places where the lee of the hill will waft the gentle breeze coming from any angle towards his position. If this stag had been moving, as Henry suggested, I should doubtless have seen him, but as it was he had been standing, as shown by his tracks, a long time in one place, and had rushed off on scenting the danger. In this case I am not at all certain that it was not the deer that smelt us, for on the top of the retreating herd was plainly seen the footprints of a large bear which had followed them. In fact, it is possible that the bear was lying down wind and had detected me and then rushed in amongst the deer.

Brown bear (*ursus arctus*) were numerous in this part of the forest, for I found on returning to the big koliba that Prince Lowenstein had had an interesting experience with one the night before. He had repaired to the carcass of a dead horse which had been killed as a bait. Another bear, a very large one, had come to dinner just a moment or two too late for a shot to be obtained. The beast dragged the carcass into some thick bushes and kept growling and crushing the bones within thirty yards of the hunter, who was quite unable to see the sights of his rifle. It must have been tantalizing. Another guest during the same week was watching for bears at a dead horse, when two came just after dusk and had a desperate fight over their supper, within a few yards of the hunter, who was also unable to see them in the gloom of the forest. These Carpathian bears are in all respects similar to those of Norway, but vary less in their external characters. As a rule they are a rich dark brown all over and seldom measure more than five feet in length. For the most part they are harmless vegetarians, but enjoy the remains of such dead animals as they find killed by men or wolves. Old "Medjved," as the bear is called, seldom attacks man, even when wounded, and the peasants seem to have little fear or dislike for them, except when they take to killing sheep or goats. They hole up about the end of November in some rocky cavern or hollow tree and remain there till March. A curious incident occurred in 1906 in the long railway tunnel at Wononienka, which joins Galicia to Hungary. Shortly before Christmas a large bear entered the tunnel from Wononienka, and, finding the place warm and dry, thought it would be a good place in which to spend the

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winter. Accordingly it lay down across the metals and went to sleep. The first train coming from Hungary decapitated it, and its carcass was found the next morning by a platelayer going his rounds. One season the Prince gave orders that the hunters were to take note of all fresh spoor of bears seen upon the coming of the first snow. In this manner the presence of over fifty bears was recorded from different parts of the Tartarow forest. Sometimes our host has a drive for bears at the end of the season if there are a sufficient number of rifles to cover the passes. The entire staff of over fifty beaters drive the mountain sides, and sometimes several bears are seen and one or two killed.

On September 26 I rode, accompanied by the usual retinue, to the mountain beat of Pit-Seredra, situated about two and a half hours from our new base at Zelonica. This was the most interesting and beautiful place I saw in the Carpathians. In the first place the scenery was magnificent, and three big stags were known to be roaring at each other all day long up there. Each seemed to bear a charmed life, since for many seasons they had been in the same situation, and had pitted their wits successfully against the most brilliant brains in Austria. There would be some credit in killing one of these knowing fellows, to say nothing of the mighty horns all were said to bear. My new stalker was one Petro Gudla, an ingenious creature and a fine hunter, very keen and so modest in the belief of his own powers of stalking (and no wonder, for old stags of Fededzyl, Toaste and Doboshanka had beat him annually for many years) that he was for ever suggesting a drive or some nonsense of that sort. One day he said to me sweetly, "What sort of a man are you?"

"An Englishman," I replied.

"Well, why don't you shake all over?" imitating the action with the words. To this odd question he volunteered an explanation.

"I know only one Englishman. His name was Andrews, and he coughed and shook all over—like so. Do not all Englishmen shake like that?" he asked innocently. I assured him that there were several men in England besides myself who did not suffer from chronic jumps, and he seemed satisfied.

In the evening we waited for old "Toaste," as he is called, after the name of the mountain on which he dwells—a dreadful place, all dry beech leaves and sticks. One experience in his habitat, which ended in defeat as usual, was sufficient to convince me that unless rain or snow fell this stag was unstalkable, even if the tricky winds, which swirled in all directions

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amongst the hill basins, could die down and let us approach. Even the silent felt boots which I wore made some noise in such places, whilst the men made still more noise; so we wiped old "Toaste" off the slate and resolved to devote our energies to the big eighteen-pointer on Fededzyl, where there was some slight hope of success. I will not bore my readers with all the chances and changes of my stalks after this noble fellow. These were very exciting and pleasant, for every time you were filled with hope owing to his splendid roaring, which lasted without intermission all day, except when you got within 200 yards. Fededzyl wood lay on a steep slope facing south, and the wind being due north, curled over the high mountain of Doboshanka and descended through two great gullies on either flank. In the air currents where these two winds met our stag generally took up his position in a spot which, after three failures, I knew was unassailable. I noticed, however, that early in the morning he was generally higher up the mountain, almost into the wind, or at evening he was low down, where stalking was extremely difficult and there was no wind at all, or only slight puffs. I will describe my last and fifth stalk at him because it is typical of Carpathian hunting.

After an unsuccessful morning and afternoon with a stag at the far end of our beat we approached Fededzyl from the river bed below, as I resolved to try and work uphill to the stag, and so meet him as he came downhill at dusk out of the curling winds. Arrived within half a mile of the dense woods we heard our stag making his usual series of suppressed growls and grunts, so different from the angry leonine roar of old "Toaste," who answered his challenge from the opposite hill. Old "Fededzyl" was, as usual, accompanied by six hinds and a "bei-hirsch," that is, a young stag, or hanger on, who lingers round the rutting herd, and whose cries are easily distinguished by their different tone. The calls of these Carpathian stags vary far more than those of Scottish or English park stags. There seems to be every gradation of tenor, baritone and bass. I heard stags howl almost like a wolf. Some old stags never call the whole season, except to give an occasional grunt; others only "yawn," whilst some, generally immatures, keep up the usual yawning roar continuously, and are in marked contrast to the deep "stomachy" grunts of the irritable patriarchs.

Having located the exact position of our quarry, Petro and I entered the dense timber and crawled like ants up through the forest. Every footstep was taken with the utmost caution, every dry stick was removed

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or stepped over and every sweeping branch turned gently aside. The going was good, nothing but soft moss and wild hyacinths. The wind had gone, and we could hear a great black woodpecker half a mile away, giving sledge-hammer blows to some decayed stump. A flock of coal-tits came and inspected us at close quarters, and squeaked and chirped around the fir cones. We sat to listen for the next call, and heard the clanging trumps of a flock of wild geese passing far overhead on the way to the Danube. Through the air, too, went a steady stream of ring ousels, fieldfares and thrushes, now on their autumnal migration; whilst such familiar residents as the common robin, wren and hedge accentor, flitted round us with the tameness born of knowledge that the great change was close to hand.

“My-au-ugh!—ugh!—ugh!” There he is again, and evidently chasing the “bei-hirsch” out of the way, by the crunching of sticks that follow the challenge. The stag is still a good 400 yards off, so we can hurry on for a while. We advance another 200 yards, and then Petro’s face is a study of worry and uncertainty. It is the next 100 yards that matters, and he knows it only too well. Just a slight puff of wind fans our cheeks, so I ask my hunter to sit still whilst I proceed alone. The forest here is fairly open and a view of eighty yards is open to the eye. There are abundant signs that the deer are close at hand, but they are not feeding, and consequently the hinds, at least, are sure to be staring about at every point of the compass. I creep forward for fifty yards, bending low to get a better view between the giant aisles of the forest, the trees here being over 100 feet in height, but can see nothing, and so crawl on inch by inch hoping that those sharp eyes will not observe my slowly moving legs. But what is that—a slight moan in the tree-tops—the wind is stirring, and I feel a gentle puff at the back of my ears. A dull crash and then a single stamp about 100 yards in front, and I know the hinds have detected me. There is nothing to be done but to rush forward in the hope of cross-cutting the line of the retreating deer, so I run with all my might, and am just in time to see a white stern and then a pair of truly magnificent antlers swinging out of sight round the ridge of the hill. It was only a glimpse, but it was enough to convince me that “Old Fededzyl” had six atop on each side and that his cranial ornaments were not exaggerated.

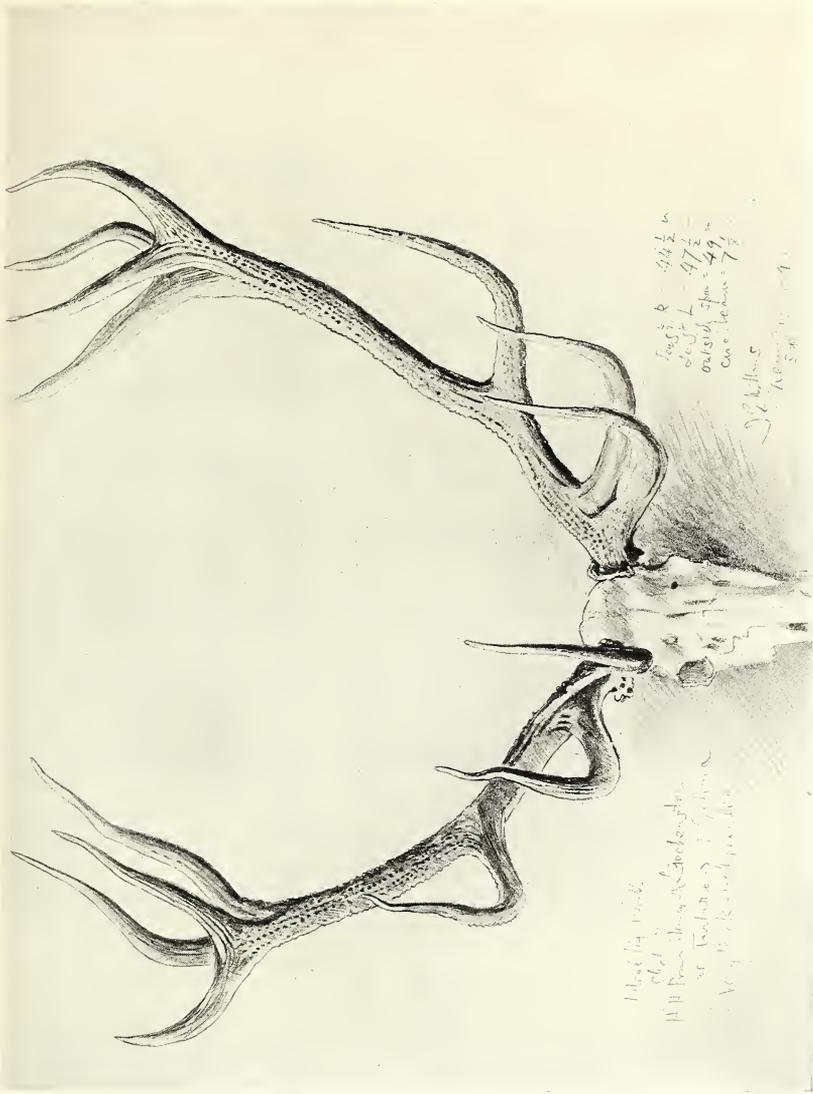
A somewhat amusing incident occurred at Pitseredna one day. The time was midday, and it was blazing hot, so we decided to ascend the high mountains of Doboshanka and admire the glorious scenery. Above the big timber we sat down to spy the great coverts of Lafchen (dwarf or creeping

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firs) before climbing to the upper slopes. My eyes at once detected something in a small opening under a rock several hundred feet up. I called the attention of Petro and the gillies to the object and they at once became wildly excited, exclaiming,

“ Olen! Olen! Veliki veliki! ” (“A stag, a stag, a very big one.”) But I could see no horns, and as the glass had been left at home (there being little use for it in this timber stalking) I bowed to the superior local knowledge of my companions. Then I explained as best I could how I would stalk the stag, if such it was, and how they must remain in open places below, where I could see them and receive their signals in case the beast moved. This plan, however, met with the most chilling reception on the part of Petro, who convinced me that the dwarf firs, though they looked short, were in reality eight or nine feet high, and that when I came near the stag it would be impossible to see it. The only plan, he argued, was for me to place myself in a favourable position near a tongue of high woods towards which the deer was sure to run, as soon as it had been disturbed from above by himself. There was something in it, and I might obtain a running shot at anything from 200 to 500 yards, so I let the hunter have his way and off he went.

In about ten minutes, just as I expected to see the animal come trotting along the hillside, the redoubtable Petro was to be observed perched on the rock beneath which the beast was last seen, and gesticulating wildly, waving his coat, and—strangest of all—flinging stones. What on earth had happened? No stag appeared, but presently came Petro, pouring with perspiration and trembling with excitement. It seems that he could see nothing of the stag when he arrived at the marked spot, and so sprang down the hill. In doing so he almost pitched on the back of a huge wild boar that was lying asleep. Old Piggy, aroused from his siesta, was not in the most amiable temper. He “chopped” his tusks, and refused to budge, and looked altogether so wicked that poor Petro thought his last hour had come. By means of a strategic movement to the rear and a sudden scramble the hunter reached the secure haven of the big stone, from which point of vantage he yelled and threw stones at the boar, until it moved slowly away, protesting all the while. Now I felt sorry that I had not made that stalk, for I should probably have added a nice specimen to my collection. Petro was quite upset for the rest of the day and could talk of nothing else but his hairbreadth escapes from boars and bears, especially bears; one of which, a creature of enormous size, he had slain as it attacked him.



From a Drawing

By J. G. Millais.

AN IDEAL 14-Pointer.

Shot by H.H. Prince Henry of Liechtenstein.

PLATE LXXV.

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He showed me the size of this monster on a tree, measuring a height of 5 ft. 6 in., and asked whether I had ever heard of a bigger. When I told him I had killed bears in America nearly eight feet long he regarded me as a magnificent liar. He knew well no bears have ever been seen of that size according to his experience, and my eight-foot bear became a source of great amusement to himself and the gillies.

There were some magnificent trees on Pitseredna, Blazow and the adjoining beats. Some of the beeches and sycamores were of enormous size, but the great trees of the Carpathian forests are the spruces. I stopped many times to measure with my steel tape these hoary giants, and found many fifteen and sixteen feet in circumference, three feet from the base. Two on Pitseredna, isolated specimens, were eighteen feet and eighteen feet, but even these were surpassed by a giant measured by Prince Henry, which is made out to be 21 ft. 5 in. Many of these spruces were over 150 feet in height, and I have not seen such glorious firs anywhere except in the forests of British Columbia.

After several more failures to get a shot owing to the fineness of the weather, and the fact that the stags kept silent nearly all day, I went on October 1 to another beat of the great punchbowl opposite Fededzyl, known as Malo Zelonica. So far I had only seen the tops of the horns of one stag in fifteen days' hunting. It seemed as if I never was going to see a stag; yet my experiences were no worse than the other guests' had been in other parts of the forest. No one had killed a good stag as yet. However, every day, as the season progressed, the chances of day-roaring improved, and we cannot be for ever unfortunate if we persevere. On October 3 the luck at last changed.

During the night Nicolo Istopuk, my new hunter, had located a good stag roaring high up the mountain to the west. I breakfasted at four, and then had a stiff climb on a slippery hillside for ten minutes. It was still nearly dark, though the moon and stars gave some faint light. In the gloomy aisles of the forest we crouched and awaited the dawn. Nicolo commenced to roar on an old piece of iron piping, and was at once answered by a loud challenge a quarter of a mile away. We set off at once to divide the distance, and found a narrow hill path which carried us right up to within 350 yards of our quarry, which was now roaring splendidly on the top of the projecting spur. The wind, too, was quite steady and curled over this top towards us without any back eddies as far as we could tell.

We now left the path and found ourselves face to face with a very stiff

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bit of ground covered with giant raspberries; the forest was not so dense as usual, nor were the trees so high, so that when day broke the light came in quickly. We thought we made too much noise in our ascent, for the stag ceased calling as soon as we had come to within 100 yards, and hope died when, after half an hour, not a sound broke the silence.

Then Istopuk did a clever thing. Arrived at the spot where the deer had been standing, he quickly noticed that the stag had left his hinds and moved off upward, whilst they had gone downward. There was only a small wet place to show him the spoor, but he struck off at once like an hound on the track. We followed it for perhaps 200 yards, with the breeze blowing freshly, when suddenly the stag roared, as it seemed, right in our faces. I crouched down and at once made out the neck and left shoulder of a big stag, and taking as careful an aim as the bad position would allow, fired. As I was turning the lever to slip in another cartridge I felt my right hand seized by the excitable Istopuk, who covered it with kisses. Then he knelt down and embraced my legs. He had seen the bullet strike the right place. A Scottish stalker does not do these things, because, firstly, his emotions are under greater control, and, secondly, he has more than one stag shot on his beat in three years. Perhaps if Donald enjoyed experiences similar to those of the Galician hunter—and we may add the fact that our friend, Mr Istopuk, had not tasted a bit of fresh meat since the previous autumn—he, too, would like to kiss you.

After this display of touching emotion, I ran forward and soon heard the welcome sound of falling pebbles right below us, and running downhill perceived the forelegs of a big stag waving in the air. The bullet had struck him in the heart, and he had plunged forward about fifty yards and rolled till brought to anchor by a small spruce. Our first kill was a beast of tolerable proportions, about thirty stone British weight. It was, as I should say, nearly adult, but, alas! its horns were very poor for so fine an animal, and I had hoped that one who made so much noise would have carried finer trophies. In Austria such a head of nine points and 36 inches long is designated a "Sneider" (tailor), but in Scotland it would have been voted one of the best of the season.

Istopuk was full of joy and politeness. First of all he pulled a spray of spruce and, dipping it in the blood of the fallen animal, signed to me to place it in my hat, doubtless to follow the old country custom and to show the men at the koliba that a "hart of grease" had fallen. Then he cut out the tusks and presented them to me on his hat with a low bow.

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Then he proceeded to fill his exceedingly odoriferous hat with water and invited me to drink and then he offered me some of the vilest tobacco on earth, dug up, nip by nip, from the gloomy recesses of his dirty trousers pocket. All these strange presents a man accepts with pleasure from his hunter, for "thoughts are singing swallows" on the day he kills a stag, and it is a source of joy to others as well as himself.

There being no other calling stags on Malo-Zelonica, we moved on to Blazow in the afternoon, another high and beautiful beat, where several fine harts dwelt in gloomy silence. After the evening and morning hunt I rode amidst splendid beech forests to the main valley, where, after a distance of sixteen miles, I reached Tartarow, to find all the guests departed. My kind host, however, insisted that I should try yet another place beyond Wononienka, where two very fine stags were said to dwell. So again packing up and travelling by the main line railway and horseback for some twenty-five miles, I reached a hut on the lower slopes of the mountains known as Magura. Here my new hunter was an old ex-poacher known as Nicolo Zaftchuk, a grizzled old fellow, said to be the hardest man and the best stalker in the whole of the Carpathians. "He almost runs uphill when he hears a stag on the roar, and you must needs follow briskly," said the Prince, "or he will despise you"—a description of the old ruffian's character that was literally true. I found no difficulty in following him even when he raced uphill through dense and dripping raspberry groves or down shining hillsides dank with rotting vegetation; but he was a hard taskmaster, and I had to do my best to win his respect. In fact, my four days with Nicolo were distinctly strenuous. Every night a stag roared magnificently in the forest beneath us and worked out in the great open fields of raspberry bushes, seven feet high, by daybreak. Each morning, after at least two hours' wait in the darkness, with its subsequent fight through the canes, we got within 100 yards of our stag, and then, just as it was light enough to see the sights, the same old drama of disappointed hopes was enacted. On two occasions I feel sure the stag never even suspected our presence, but, knowing that danger was most to be apprehended in the moments of dawn, he drew his hinds together and dashed off back to the forest in silence without our even knowing he had gone. It was most exasperating, just when victory seemed assured. A man must indeed have an equable temper to persevere at this form of sport. Were it not so high-class it would break your heart. I must not strain my readers' patience too far by narrating our repeated failures. Every device that the

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skilful Zaftchuk employed was brought to nought, and I am scarcely a novice at the art of timber hunting, yet we were utterly defeated at Magura by two of the cleverest stags with whom I have ever crossed weapons. They were fine antagonists, but I do not consider that they quite played the game on those two mornings when they glided away simply on the chance of our being there.

Nicolo was one of those men who must always be working. To him the calling of a hunter was the only thing worth living for. Even when he was sitting still he was working his brain and thinking out all sorts of weird plans. His stern expression never relaxed. He would light his foul brass pipe, take two or three hard puffs, and gaze at his sharp-pointed cowhide veldt schoens with intense absorption. Then he would spring up, place my coat on the ground, and command me to lie down with an expression that seemed to imply that he would surely kill me if I moved before he returned. Whereupon he would creep off into the forest for one, two or three hours, returning with a broken twig, a piece of frayed velvet from an antler, or some fresh dung, significant emblems of the proximity of game. All the while he would mutter in an unintelligible language to himself as if arguing out a difficult problem in which he was both questioner and answerer. Sometimes he would take me for tremendous walks through the mountains on the chance of hearing the voice of some travelling stag, and in one of these we came across the dead body of a large wolf. It is a great misfortune to be unable to converse with your companion in the forest, and I never felt it more than in the presence of Zaftchuk. He was a man above the rest, and I should have loved to have heard the story of his early life and adventures, when he went in daily fear of death or imprisonment. Poaching in Austria is not what it is in England to-day. A man there does not do it for gain, but purely out of love of adventure and the joy of the chase. In the mountains of Hungary, the Carpathians, and the Tyrol, the poacher is a *man* in the best sense of the word, and knows that he takes his life in his hands when he creeps across the frontier at dawn to have a shot at some stag or chamois buck he has marked across the march. The gamekeepers and forest watchers are equally fine fellows and are also armed. If the two meet they both shoot to kill, for it is one man's life or another's. Of the many stories of heroic combat the following, told me by Prince Franz, is one of the best, and can be attested, as the incidents occurred in his forest in the Tyrol.

Karl was a famous poacher of great strength, skill and daring. He lived

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in a village in an adjoining valley, and many a fine stag and chamois had he taken from the preserves on the other side of the mountain where dwelt Ludwig, forester and strong man, whose ambition in life it was to catch him. One morning they met suddenly face to face on a hillside so steep that both found it scarcely possible to retain a foothold. Both managed to bring their rifles to the present, although Karl was encumbered with a buck chamois tied to his back.

"You are my prisoner," shouted the gamekeeper, covering his man.

"I don't think," replied Karl, or with words to that effect, his rifle also pointed at his enemy's breast. "But, stay," he added, "this is dirty work for gentlemen of the mountains. Let us go to a level place and fight it out like men with our alpenstocks." To this the forester at once agreed, for he was a man of herculean build.

In a few moments they reached a level spot, where, after divesting themselves of all impedimenta, they set to with a will.

That must indeed have been a heroic combat and one more worth seeing than all the brutal exhibitions of the prize-ring, with money as the sole instigator. The two giants slogged and wrestled for half an hour, till the staves were useless, and then went at it with stones and fists until at last the forester fell from sheer exhaustion and loss of blood. Ludwig lay as one dead on the snow, whilst ominous lead-coloured clouds moved rapidly over the mountains. Karl looked upwards and knew that in a short time his antagonist would be buried in a white shroud, from whose folds there would be no awakening. He stood looking at the still body of the man who was his natural enemy and who would without hesitation have put a bullet into him had he caught him unawares. And then a wave of pity overcame him, and he decided to act. With great difficulty he got the keeper on his back, and, exhausted and sore as he was, he contrived to convey his enemy for twelve miles over the mountains in a blinding snow-storm. With the aid of his wife, Karl succeeded in getting Ludwig to his hut, where the pair nursed him back to consciousness after three days' incessant attention. Yet it was a fortnight before the unfortunate gamekeeper was fit to walk and return to his duties. One morning he stood at the door of Karl's hut and, holding out his hand, he said:

"I thank you, Karl. You are a brave man; but if we meet again—remember." And, pointing to his rifle, he walked away.

Let us hope they never met, for at that moment each must have felt that they had fallen back in their former positions.

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Two of the foresters in Tartarow forest did a plucky thing one day. They were stalking with the Prince of Braganza, when they heard a shot up on the hillside above them. After some manœuvring they saw the poacher, and followed him for an hour to his camp fire in the woods. They waited for some time until he commenced to cook some meat, after placing his rifle against a tree close by. Then on all fours the two foresters commenced to stalk their man, and succeeded in falling upon him before he could retreat or seize his rifle. The poacher got a month's imprisonment in the local court.

I returned to Tartarow from Magura sad at heart, for the season was over, and I had experienced all the feelings of one who has worked hard and been within an ace of success, yet without achieving it. At the home lodge I found our kind host, who, good sportsman that he is, did not complain that he had not himself had a shot the whole season, but only lamenting the fact that not one of his guests had killed a hart worthy of the place.

"We leave for Vienna at eleven to-morrow," he said, "and if you like to rise at night and go to the other side of the Tartarow mountain you may find a good stag that is said to be roaring there. Will you go?" I needed no second invitation. Abdullah, the Somali, brought me a cup of tea at 2.30 a.m., and, accompanied by Hryc, the stalker, and with Fedochuk as gillie, I mounted my pony and took the hill. Our way led across the river and up for three hours through the forest. At times it was so dark that it was difficult to find the way, as we only carried a candle set in a rude lamp; but just before daybreak Hryc signed to me to dismount, and we then found ourselves in an open Alpine clearing where the koliba was situated. Here the hunter began to call industriously as usual. No answer came, and we kept on ascending until the day broke, and with it a glorious view of the main valley.

It was a grand morning of crystalline clearness after a night of slight frost. We could hear the moving train toiling up the hill to Wononienka; a dog barked miles away in the valley below, and the lowing of cattle and sheep, coming from the folds thousands of feet beneath us, was more suggestive of a mountain farmyard than a deer forest. Again and again the hunter emitted the melancholy plaint of the love-sick stag, till at last it became so warm and sunny that all chance seemed to have gone for the day. I must be off home to pack up and hope for better luck another time. Hryc shrugged his shoulders with explanatory regrets, and we started off along the narrow part in the direction of Tartarow.

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I was walking in front when I was suddenly arrested by the strong scent of deer, and immediately afterwards noticed the fresh track of a large stag, so fresh indeed that Hryc, on seeing it, at once dived his hand into his little ruck-sack and produced his favourite tootler. The artificial roar was not answered, and after waiting a few moments the hunter proceeded along the path "roaring at intervals." Suddenly I heard an answer about a mile away in the forest below. I stopped, but neither of the two men had heard it, and when, after a moment or two of hesitation, they advanced again, suggesting that I had only heard a distant cow, I felt somewhat annoyed, as I knew I had not been mistaken. We had only taken a few steps, however, when a loud challenge welled up from the trees some half a mile to our left. The men were now in great excitement, for the stag was evidently travelling rapidly towards us. In fact only a minute seemed to have elapsed when he roared again grandly within a few hundred yards.

Our attention was next called to the breaking of sticks and the sound of galloping feet immediately beneath our position. A large hind then appeared, trotting slowly along the hillside. She stopped to look back, and I felt sure the stag was coming from that direction, when a pressure on my right elbow and a hand pointed down the path to the left, turned my attention in the right line. There stood the stag, panting with his exertions, and looking straight down the hill at the hind. He stood facing us in the only spot in which it was possible to obtain a clear view, so I lost no time in putting a bullet into his chest. He fell off the path, with all four legs in the air, and died at once. The capture was altogether lucky, not to say fluky, for we had done nothing but walk home right down on the path and kill our stag. Such good fortune always happens *if you go on long enough*. The stag was only a nine-pointer, but a better head than the first I had killed, yet nothing to be proud of. Thus ended my experiences at Tartarow for the year 1909.

GALICIA, 1910

IN the foregoing chapter I have endeavoured to show the reader that stag-hunting, as practised in the Galician forests, is neither a luxurious sport nor one attended with frequent success. The triumphs, in fact, are few and the disappointments many, and yet to the true hunter, whose chief pleasure is in the overcoming of difficulties, it has its attractions, which, combined with the knowledge that luck plays a prominent part in the game, urges a man forwards. Luck is sure to come your way if you have the opportunity to persevere long enough, and so it was with renewed hopes of a better season that I set out for Tartarow on September 14, 1910. Prince Henry, in his generous way, had said, "Come when you like," and so I left England with the intention of spending four days in examining the exhibition of hunting trophies then being held in the Prater at Vienna. So much has been written about this wonderful show, so full of interest to lovers of Nature and the rifle, that I need do no more than say it was the best thing of its kind ever brought together, or ever will be in our generation. All that good taste and skill could suggest, together with a knowledge of the whereabouts of the best heads, combined to show us the best trophies that the continent of Europe has produced. The exhibitions of the Austrian and German Emperors, the separate pavilions of the Austrian Archdukes and Princes, were all crowded with the most remarkable examples of stag and roe heads arranged in a manner beyond all praise; whilst the unique Moritzburg collection of red deer heads may be said to have occupied a class by itself—one head (with frontlet only) in this collection being of such a size as to weigh no less than 28 kilos. The British exhibit, though well arranged by Mr Fairholme, was scarcely representative, whilst those of Norway, Sweden and the various Austrian states were full of good things dear to the soul of the hunter.

I could have stayed a fortnight in such an absorbing place, but September 20 had come—it was getting frosty at night, and stags would be roaring now.

It was freezing hard as I stepped out of the train at Stanislau early next morning. Four hours more and I drove up to the Forest Lodge at Tartarow to find that Prince Henry, and the few guests who had come, were away at their kolibas in the mountains. As yet no stags had been killed, but the frost had come early and that gave the prospect of a good roaring season.

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Mine host, with his usual thoughtfulness, had arranged that I should go out to hunt at once, so, in company with Fedochuk, I took a ten-mile walk around the mountain of Janetz without hearing a sound. At 3 a.m. the next morning another hunter, Fedor Koranuk, and I drove in the moonlight to another beat, Gejaintzej, which embraced some stony fells of dense raspberries and fallen trees. We ascended an old timber road, and then went up a steep face of 300 feet just as the day broke. This was a new beat, where never before had a stag been killed, but my hunter said that two stags frequented it, and was much disappointed, when we had reached our point of general view, neither to see nor hear a sign of them. The only thing in sight was a roe and fawn, which stood silhouetted against the moonlight forest above us, watching our movements with suspicion. It was seven o'clock, with the prospects of a warm day ahead, when a stag suddenly roared magnificently on the shoulder to our right and almost dead down the wind. A moment later I saw a small bunch of hinds running and feared the game was up, but it proved to be a false alarm and only the stag driving in his harem. We dived at once into the deep gully that separated the two hills and found that our wind had been swept downwards and out of harm's way. As we slowly ascended the hill on which we had seen the deer, a perfect chorus of roars and grunts greeted our ears. In fact, we soon ascertained that there were two big stags and a "bei-hirsch" in front of us. After advancing with the utmost caution through the crackling sticks and raspberries, here six feet tall, we paused to reconnoitre and found that one of the big stags had passed away rapidly over the hill, leaving one stag, four hinds and the "bei-hirsch" in possession of the ridge above us. The wind being perfect we still advanced until Koranuk climbed on a log, but at once descended and announced that we could go no further as the "bei-hirsch" was then only about a hundred yards away and directly in front. I took a look at him and saw a third-year stag running about excitedly, snuffing the ground where the hinds had been. As yet we were uncertain as to the position of the master stag, but almost at once he roared again, and I saw his three hinds feeding quietly in a thicket of small trees and fallen timber above us and to the right. The "bei-hirsch" could not get our wind if we moved some fifty yards, and this we did, crawling through the noisy undergrowth as if our lives depended on it. By standing on a log and pressing against Koranuk's shoulder, a cranky position at the best of times, I could now see the stag slowly driving a hind before him into the cover. He was wood-bound and only his head showed clear, and my position was so shaky that I

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resolved to wait till a better opportunity occurred, although the beast was only 100 yards distant. For a long time he disappeared in the little wood, but I knew he would emerge at the far end, because from time to time I caught a glimpse of his wives feeding that way. At last the hinds came out one by one. Half an hour went by, and I began to fear he had gone over the ridge after other charmers, when I caught the flash of sunlight on his horns as he slowly moved out of the thicket towards the open.

I gathered my nerves for the standing shot, and just as he raised his big neck to roar I put a bullet through it at 120 yards. Of course, he fell dead on the spot, and the first stag of the season was mine. Galician hinds are not overburdened with stupidity, but on this occasion the ladies of the party utterly lost their heads on the death of their lord and master. When we walked up to the dead stag they crashed and galloped round us in a bewildered fashion and seemed quite at a loss where to go—at one time almost charging up to us in their desire to find their leader. Deer of all kinds do this sometimes when they have not smelt the taint of man, for the sight of their arch-enemy is not the supreme source of fear in moments of excitement. Presently one old hind, as big as an English park stag, composed herself and led the rest away to the dark forest on the slopes above; and we, too, ascended the hill to find I had killed a nice twelve-pointer, with horns 40 inches in length, but of no particular strength.

This was a good beginning. To find a stag roaring his best on the first day prognosticates a good season, but the thought was only the father to the wish in this case, for during the next fortnight the weather reverted to summer and warm nights, and with it the stags resumed their lethargy and reticence. I returned to Tartarow and found Prince and Princess Demidoff had arrived, coming all the way from St Petersburg. Next day, too, came our host and Prince Franz Liechtenstein, and we had a lazy day of idleness and hunting yarns.

On the 22nd all left for their respective beats. I rode for three hours to the beautiful forest country of Piki, a place renowned for big stags. Some noble beasts were there, without a doubt, as one could see by their fresh spoor, but except for an occasional roar at night they did not give me a chance. Fedochuk and I went for tremendous tramps in forests of giant timber and over high stony crests wooded to the very summits, from which we had glorious views over some of the loveliest valleys in the Carpathians; but not a stag could we sight in four days, and so returned to Tartarow to find that the Duke of Braganza had killed a noble head of

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50 inches on Magura and two other nice heads. He had been lucky to find the stags roaring well in his district, whilst none of the other rifles except Prince Demidoff, who had shot a small ten-pointer, had seen or heard anything.

On September 28 I had an evening stalk on Magurchik, where a stag was said to be roaring. We found him without difficulty, and had an easy advance along a forest path right up to within 300 yards of the quarry. Here Fedor Koranuk did a clever thing and I a foolish one. The stag was on a densely wooded ridge above us, and Fedor said he would bring him out, and so commenced to rub an old sapling with my stalking-stick in imitation of a rival stag thrashing the bushes. The effect was immediate. I saw the stag running towards us, and then his horns only showed as he advanced through thick spruces until he stood facing in our direction at 100 yards. I could see nothing but the horns, and the time was ten minutes past five. In five minutes it would be impossible to shoot and I was in a quandary, therefore, as to whether the beast would give a better chance, so I decided to fire, and, aiming at a spot in the bushes where I guessed the neck ought to be I pulled trigger. The stag disappeared at once, and I thought I had killed it, but I was wrong in every calculation, and returned to the lodge a humbled creature. The horns were not those of a big stag, so I was not heart-broken. Prince Henry has often remarked that nearly all the stags shot in Galicia are killed between the hours of seven and nine a.m., and after some experience I found that he was quite correct. You may be close to a roaring stag at daybreak, but it generally takes an hour or two before the shot can be fired, because with the increasing light the beast generally starts moving and gradually ceases to cry. At this time of day the hunter need be in no hurry to fire, because with the growing light comes a proportionate chance of success, owing to the fact that in dense forest it is not very easy to hit a small mark until the sun is well above the mountain tops. In the evening the conditions are exactly reversed. You often hear a stag bellowing splendidly at, say, 3.30 p.m. or 4 p.m. It is probably on the other side of the valley and a good hour's walk. You know in your heart of hearts that you are sure to get close to him, but that it is fifty to one if you can see your sights for a shot. If you do go the result is usually failure; but if you do not, your hunter looks upon you as a miserable creature unworthy of the name of hunter. Consequently (most of us being moral cowards) you always essay the fruitless tramp and so retain that mutual confidence so essential between the rifle and his hunter.

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On September 29 Mr Pick and I left for the other base at Zelonica. Our route was by train to Neidworna, where we had to take the small wood railway up to Zeilona. I had been here in the previous year and was much surprised when we reached Neidworna to find ourselves ushered into a carriage by the Oberjager and our baggage placed in one of the country carts, because the engine and carriage of the branch line was standing only a few yards down the platform. But after a little one ceases to be surprised at anything in Galicia. It is an eastern land, inhabited by eastern people, and it did not take us long to discover that the dirty Jew drivers had bribed the engine driver to take his little train 300 yards up the track where it cross-cut a main road, circumventing the entire town and village of Neidworna. Along this road our Jehu drove slowly for about an hour, eventually landing us within a short distance of the spot from which we had started. We had then to wait another half-hour for our baggage to arrive.

Of course Pick and I roared with laughter when we found out how the Jews had achieved their fares by this clever trick. It was a stroke of genius worthy of a Neapolitan hackman.

At Zelonica we found the whole party of hunters assembled, some of whom had already achieved success. Prince Karl Fürstenberg had shot two nice stags and a good-sized bear, which had come to devour one of the fallen; whilst Count Scheibler had obtained two excellent heads, one a noble fifteen-pointer on the same ground (Krepeluf), and we all rejoiced at their good fortune. Prince Lowenstein, on another beat, had been most unlucky, having wounded and lost a splendid eighteen-pointer.

On September 30 I left on horseback for the highest and roughest ground on the whole forest. Travelling up hill for three hours through the most beautiful forests of beech, birch and spruce, I had at last to abandon my horse and literally climb, dragging the panting steed after me. I like those kind of places, and was in highest spirits when at last we reached the little hut on Satki in the great forest of Medvedjik (the home of the bear), for were not three stags calling loudly and the day still young?

Pietro, my new hunter, was a splendid man of noble physique. He had the face and expression of an Oberammergau Christ, with a wealth of curly red hair. Although he only spoke Ruthenian I could understand nearly every word he said, and I found him a pleasant companion during the few days we were together. He was the only Galician hunter who insisted in valeting me himself, whether I liked it or not. After he had removed

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my boots he would polish them with the sleeve of his coat. Doubtless some touching faith existed in his simple mind that he was cleaning them, but any one who knows a Galician coat and the manifold usages to which it is put might be disposed to differ. One day he even wanted to wash me, and with difficulty I explained to him that I had done it before and had not forgotten how, and that I was not some mighty Prince who had crowds of minions to slosh the soap on his Royal person. But Pietro was not only a nice man but a good hunter, bold as well as patient, a combination we do not always find amongst these people who are inclined to potter when it comes to the final attack. For four days we seemed to be entirely out of luck. After the first evening, when no fewer than five stags were calling in various parts of my ground, we never heard another sound, although going for tremendous tramps over the roughest and most likely looking country I had ever seen. The warm weather had completely foiled us, so that when Pietro called me up at 3 a.m. on the morning of October 4 I felt that another snooze in my comfortable reindeer bag would be a far better way of spending the morning than endless climbing.

"A big stag calling on Satki, your honour," said Pietro, as he plumped the steaming kettle on the wooden table. I was out of bed and dressing furiously in a moment. By the light of a candle we stumbled along the path that led to the summit of the mountain and there sat down to await the day.

What a wonderful and exquisite thing is daybreak in the mountains, and in no place more so than the gorgeous Carpathians. There is grand scenery in many lands, but only in Scotland, Alaska, East Africa and the Carpathians have I viewed noble scenery combined with colour. The ground around us bore a ghostly appearance, for in gathering dawn the blueberry bushes and small spruces are silvered with the night frost. A pale orange tint envelops the sky to the east, behind the rich purple peaks that stand out in bold corrugated masses against the sky. It is not long before we can see into the valley and discern great bold islands covered with dark green spruce forests, emerging from a sea of white clouds that roll and disperse in the growing warmth. As the first rays of the sun touch the highest peaks a roe barks in the forest below, doubtless alarmed by a passing wolf or bear, and the first ring-ousels are crying to one another to be ready for the southern trek. Where but a few moments before all was silence is now gay with the voice of birds. Hundreds of crossbills, goldfinches, siskins, redpolls, chaffinches, flit by in serried flocks of fifty

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and more, each uttering their well-known cries; whilst the great black woodpecker utters his screeching yell in full flight, or his peevish pipe as a call note. In a Carpathian forest one has not to sit for long before bands of marsh, coal, and, most beautiful of all, crested tits, flit by or come to inspect you most closely; whilst sometimes great flocks of mixed nut-hatches, tits and golden-crested wrens proclaim the close advent of winter. The best of the morning comes with the warmth of the sun, for the trees now sparkle as with a thousand jewels and colour and life awake in all Nature.

But we could not wait for the sun to rise on this particular morning because the big stag of Satki gave one splendid roar right below us, and we had already felt a puff of wind at the back of our necks. In the morning the wind nearly always blows down hill in these mountains, so it did not take long to find that Pietro was in agreement that we should descend 500 feet to the bottom of the valley and work upwards to our deer. A rough descent and then a flank movement brought us exactly beneath the point of the mountain we had lately occupied, but it was a long time before the stag again grunted to give us his exact position.

"We will go up straight to him," whispered Pietro, and when I looked at the hill and its surface I wondered how on earth it was to be done. The ground was of the very worst, so steep one had to use the hands in climbing, and entirely covered with granite stone, small sticks, and, worst of all, beech leaves. As we panted and ground the loose shale beneath our feet I said to myself fifty times that no self-respecting stag would stop and listen to that infernal noise. The thing seemed an impossibility, and yet I could not help thinking of a remark that Count E. Hoyos once made to me: "Far more stags are lost than shot by advancing slowly and creeping about. When I find a stag in a bad place, I advance straight up to him as quickly as possible, hoping that he will take me for another stag. It is the only chance." The truth of this wise view of one of Austria's most experienced hunters was shortly to be proved, for we had just reached the spot where the stag had last called and had paused for breath when I heard a stick crack above, and, looking up, saw the sun glinting on a fine pair of horns. The noble beast now appeared, glancing nervously to left and right, but fortunately not in our direction. I felt sure of an easy shot, but what was my disappointment to find that he kept the greater part of his body hidden amongst the serried stems of trees, and when he did halt, at forty yards' distance, only the side of one haunch was visible. In this form of

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wood stalking it is imperative to fire at any part of a stag that shows, for after such a bold advance the deer is sure to be suspicious, and to move off if the opportunity, poor though it is, is not seized. Accordingly I aimed carefully to the right of the black oval disc and let go. The stag at once stumbled and half fell at the impact of the heavy bullet, and keeping well in the thick cover moved rapidly away. I fired three somewhat hopeless shots after him, which doubtless found their billets amongst the tree stems, and then ran forward in the hope that the stag might have fallen. This was an unfortunate move, as the stag heard me and crashed away down the hill on three legs. What was to be done now? If we sent to Zelonica for a dog it would be eight hours before it could come, and there might be no dog there. Accordingly I sat down, and, pointing to my watch, explained to Pietro that we must wait for two and a half hours before starting to track the wounded animal, for it was quite possible that we ourselves might be able to overtake the beast by patient spooring. Pietro agreed with me, and we had breakfast and a pipe with minds full of hopeful and pessimistic reflections.

At last the time of waiting was past, and I rose to take up the track; my fear was lest the ground might be like that over which we had already passed, dry and stony; but luck was for once in my favour, as the route the stag had taken lay down the steep hill over damp earth, on which the heavily indented tracks were easy to follow. There was much blood to prove that the heavy bullet had created a wound of some magnitude, and this, combined with the fact that the stag on reaching the main valley had subsided into a walk, gave every confidence that we would bring the chase to a successful issue if the ground remained soft. But on reaching the little river, the forest opened up and the sun had penetrated to the stony slopes of short grass, drying the turned leaves and vegetation and making the spoor almost impossible to discern. Here we were at fault many times and I only regained the track by sending Pietro to make casts ahead in the damp forest. After considerable delays the hunter picked it up successfully on both occasions, and we had another quick follow-up for a mile or more. On crossing a second stream, on the border of Pitseredna, we received a further check on hard open ground, and for fully ten minutes the trail of the stag was impossible to find. At last I discovered it, ascending a steep bank, not a very hopeful sign, but on reaching the crown of the ridge, the effort seemed to have been too much for the stag, which had plainly fallen and had difficulty in rising. Immediately afterwards the

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quarry entered a perfect jungle of fallen trees, small spruces and high grass, where I felt sure he would lie up, so, proceeding with the utmost caution and with my rifle at "the ready," I peered into every thicket. I had, however, hardly entered this place when I heard the stag rise and crash away, leaping over the fallen trees. I could hear him zig-zagging about as a pursued deer always does, and so fought through the cover and ran parallel along the slope to head the beast before he left the thicket. However, I was just too late to catch a glimpse of him, so, whistling to Pietro to come on, I resumed the track through a somewhat open beech forest. The stag was now nearly exhausted, for he had at once resumed a walk, and it was not long before I caught a glimpse of something moving ahead; a sharp forward dash disclosed the stag about a hundred yards away about to enter a thicket. I took a snap shot and the beast at once fell, but, struggling to its legs, it ran slowly away, when, on rising a slight eminence, I got a clear shot and struck it through the heart.

A curious incident now happened as I ran forward to gloat upon my prize. I saw that it was not dead, and so fired at the neck to kill it as quickly as possible. At the moment at which I pressed the trigger a woodcock rose, as it seemed, directly in the line of fire, and I believe that my bullet passed through its wing as it sped to its final goal. It would indeed have been an extraordinary thing if I had killed a stag and a woodcock with one bullet, a circumstance that was within an ace of happening. Thus died my first good Carpathian stag, after a chase of four miles, lasting three hours. I was very pleased to have been able to follow the track myself, for spooring is of all phases of hunting the most interesting and exciting. I asked Pietro if our quarry was a big stag, and he answered with a deprecating shrug, as much as to say that he was of average size; and yet next day, when I weighed him, without liver, heart, entrails and head, and when there was much loss of blood owing to cutting up, he was above 33 stone English, and not a bad beast. The head was a really good one of 40 inches, thick and rough, with fourteen good points. Naturally I was much pleased in having killed a good specimen of the great Carpathian red deer, though I knew that there were many far better in the adjacent forests if we could only have the luck to hear them calling.

The next day we had a tremendous tramp, and did not return till mid-day to the koliba, and then found the horses gone, so I had another ten-mile walk to Zelonica, where I found most of the hunters assembled previous to taking their departure.

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On October 5 I rode three hours to the koliba of Pitseredna, having a roving commission to hunt where I liked in the great Doboshanka Valley, and to make my way in four days' time over the mountains to Tartarow, a distance of twenty-eight miles.

Prince Henry had given me a huge tract of country to roam about in, and if the stags had roared I should have been at a loss to know where to go, as there were plenty of deer everywhere; but hardly a sound was to be heard, and one place was as good as another. As my hunter, Pietro Gudla, accompanied me, and at three we left the koliba for the evening hunt on Pit-Fededzyl. I had little hopes of seeing anything, as the evening was wet and cold and the darkness would soon envelop us; and yet it never does to funk the work, for the most unpropitious day may turn into the most successful. We toiled through the wet raspberries and up over Fededzyl, where in the previous year we had had such exciting hunts. Away up to the mist-enshrouded Polanka above, Pietro led the way as if some grim purpose occupied his mind. Pietro was a hard taskmaster and walked with a springy, active step, having no mercy towards the miserable creature that toiled with panting lungs in his wake. It was a race between time and light, for Pietro now confided to me he thought he knew where a stag would come out to feed on the green slope above, and that we must go there at once. Once on the high alp we fairly crawled along the edge of the trees, in fact, we went so quietly that we crept within twenty-five yards of two splendid cock capercaillies enjoying their evening meal of berries. They crouched to the earth and did not rise as we passed onwards. A moment afterwards Pietro fell to the earth like a man shot. I did the same, and, peering downwards through the mist saw a huge hind with cocked ears regarding us fixedly. She barked loudly and took a step or two forward. I fancy she had not quite made us out, for she continued to stand and bark at intervals for half an hour; for all that time we remained rigid, whilst a cold, merciless rain beat upon the backs of our necks.

At last she turned her back upon us, and we at once dived into the shelter of three spruce trees, and when she looked again I knew we were safe from wind and sight. Gradually her form became more and more indistinct. I looked at my watch—it was five o'clock. In ten minutes all would be over and as yet we had not heard a sound. Yet Pietro seemed inspired that evening, for when a magnificent challenge welled up from the forest below he seemed to take it as a matter of course. Acting as a man does who has seen the same sight before and was only repeating that which was

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predestined, Pietro crouched beside me, with a happy smile of certain success. His mind was in complete contrast to my own, for I could not now see the edge of the forest and was shivering as well. Ten minutes went by before the stag again roared, this time right below us on the open hill, and yet I could see nothing—all was obliterated in mist. Then up went the curtain, and I saw for a moment what appeared to be an enormous stag, standing broadside on. I put up the rifle and aimed, but at that moment the cloud descended and I saw nothing. Three times was this repeated, and at last I resolved to fire at anything that looked like a body. Slowly the mist moved upwards, when, aiming as carefully as possible and holding the rifle perfectly still, I fired. Looking downwards, I could see nothing; Pietro, however, was already on his feet and bent his head to kiss my hand. He had heard the bullet strike the stag and was satisfied. We now ran down the green slope to get some warmth into our bodies, and at once saw the stag, a nice fourteen-pointer, with black horns, lying dead on the edge of the forest. The distance of the shot, as I afterwards paced it, was exactly 150 yards, so I cannot complain of being unlucky that evening.

The lives of all who hunt the wild beasts of the earth are made up of periods of success and failure. The most trifling incidents may be the cause of one or the other, so that it behoves us to give the utmost attention to details that might to the uninitiated appear trivial. Rifles and cartridges are now for the most part so excellent and reliable that we seldom hear of failure in them when the hunter is an old and experienced hand, because he is sure to have given them an exhaustive test before final adoption. In 1908 I bought a new '375 cordite rifle, throwing a heavy bullet, from a celebrated Bond Street maker and had given it a thorough test, which had proved satisfactory. Each year, before starting on a hunting expedition, I had fired twenty cartridges rapidly at a mark, and there had been no hitch, but now it was to fail me at a critical moment.

Two days after the last incident recorded, Pietro suggested that we should spend the afternoon in working slowly against the wind, along the much-used paths of a great stag which he knew frequented the forest-line beneath the great Doboshanka mountain. Not a stag would call, so it was a good suggestion which I readily adopted. About 3 p.m. we were creeping slowly up wind through the forest, when suddenly there was a loud crash in front and I saw four hinds dash down hill out of sight; a moment afterwards the best stag I have ever seen rose from a hollow, and after running a few steps, stood regarding us at fifty yards. It was the chance of a lifetime, and as I

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pressed the trigger I felt sure he was mine. Instead of the report I only heard a click and, knowing that the cartridge had misfired, I quickly opened and shut the breach again, expecting to put in a fresh cartridge. To my disgust I saw that I had flung out a complete cartridge and that the first was jammed in the barrel beyond the ejector. It was an awful moment. The stag continued to gaze placidly, and I was incapable of injuring him. He then galloped slowly along the hill side above and stood again at about 100 yards, though somewhat hidden in the trees. Then he vanished. There was nothing to be done but cut a stick to clear the barrel and to swallow one's disappointment, but I can never use that rifle again. The stag seemed to be of immense size, almost as large as a wapiti—in fact, I have little doubt that it was one of those giants of over forty stone that still live in the Carpathian forests and are seldom seen. I do not think, however, that his horns, though large, were in any way remarkable, yet there were at least five or six on each top.

Two dejected creatures then proceeded homewards. We tramped along the forest path in no mood for conversation, for there was nothing to be said. I had never had a misfire with a rifle before, and it was hard that the rifle itself should have refused to work in the presence of a hunting trophy that most men aspire to but seldom get.

With such a reflection I looked up, and there stood a large bear on the path, facing us with cocked ears. Pietro saw the beast at once and dived out of the way as I brought the rifle to my shoulder, but, alas! so did old Bruin. He had only to take one side step behind a little spruce to be lost amongst the only windfall and raspberries in the whole forest. By the fraction of a second I failed to fire, for the bear sprang off the path as Pietro moved; and though I ran forward at once, hoping to see the beast in retreat, he was too cunning, and had kept in the thicket until well out of sight. Thus ended the most unfortunate day I had experienced for many years in my hunting.

THE EUROPEAN BEARS AND THE WILD BOAR

THE Ice, White, or Polar bear ranges over the whole of the North Polar regions, being most common on the fringes of the Arctic ice. Sir George Nares found no Polar bears north of lat. 79°, although Captain Hall observed them as far as lat. 81°. At present we need not discuss their habitat in North America and Asia, but only those parts of Northern Europe where they are most generally to be found. They are abundant to the north-east of Spitzbergen, in Franz Josef Land, Novaya-Zembla, Jan Mayen and the east coast of Greenland, being only rare visitors to Northern Norway, the White Sea and Iceland. They are more aquatic than terrestrial animals, having been observed swimming in the sea more than eighty miles from the nearest land. In summer they often frequent the coast of the Arctic Islands and create havoc amongst the sea birds and their young, but their usual prey is the ringed, harp, hooded and bearded seals and their young, as well as young walruses and any dead carrion, such as whales, etc. The strength of these animals is very great, and they have been known to drag the carcass of a floating 15-foot white whale on to the ice and there devour it.

The average height at the shoulder is about 4 feet 3 inches and length from nose to tail 8 feet 3 to 6 inches. Very large males are sometimes killed up to 10 and 11 feet. The finest I have ever seen was a magnificent specimen hanging in Mr Brand's store in Bergen in 1911. It measured 12 feet 4 inches and the pelage was in perfect condition. Colonel Clifton Brown, of Holmbush, also has a specimen of nearly 12 feet.* In spring the hair is pure white, the yellow tinge generally coming from insufficient cleansing.

The feet and legs are large and powerful and the bear can both run and swim with great rapidity. It usually kills the sleeping seals by surprise; but if they are watchful the bear will spend hours in stalking them, and will resort to the device of diving under the ice and coming up close to his quarry, so that it must fall an easy prey as it enters the water. All authorities who have a comprehensive acquaintance with this animal in its wild state agree in saying that it is exceedingly timorous, and will only rarely attempt to attack man, and then only when wounded or in

*Admiral Markham remarks (*Enc. of Sport*, vol. I, p. 86) that bears of over 13 feet have been killed, but no such skin is known to exist.

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defence of its cubs. When pressed by hunger, they are very bold and will approach and even break into huts where food is stored. An Icelander on the north coast of Iceland told me that one severe winter he was aroused by some one, as he thought, attempting to break in the door of his cottage, and on going to discover the cause found a large Polar bear biting the wooden door to pieces. With a shot gun he managed to destroy the invader.

Any sportsman who wishes to add this animal to his collection cannot do better than employ Herr Magnus Giaver, of Christiania, who, in his vessel, the "Laura," has made over twenty trips after Polar bear, seals, reindeer and musk ox. He knows the ice conditions of the Polar seas better than any living man, and though the trip is an expensive one, success is a certainty and the voyage can be done in comfort and even luxury. Those who cannot afford a considerable expense and are content with one or two specimens of Polar bears can go in one of the small vessels that annually leave Trondhjem in June, July and August for a month's trip in the north. These small vessels usually kill from twenty to thirty Polar bears in one month, and the expenses to each rifle are about £140. It must be remembered, however, that the party usually includes six rifles, and each has to take his chance in turn. Several of my friends have made trips in these vessels and been successful, but one and all speak of Polar bear shooting in the sea and on the ice-floes as very indifferent sport, in which the game has no chance, either to charge or to escape. Modern rifles are now so good that a single shot, properly placed, at once kills the animal, whilst there is no hunting in the correct sense of the word, but merely pursuit in a boat and then slaughter.

Sir Savile Crossley tells me that he killed most of his Polar bears by imitating the antics of a seal rolling on the ice. The bear, on seeing what he thought to be a good dinner, gradually approached within shot. Nowhere at the present day are polar bears so plentiful as they are in the bays of East Greenland almost opposite Iceland, but it is very difficult as well as dangerous for any vessel to get to this place. In 1899 I saw a small sailing boat at Aalesund, in Norway, which had just returned from a summer trip there. It had been manned by three Norwegian boys, none of them older than twenty-two years of age. These plucky fellows had gone through the ice-break between N.W. Iceland and Jan Mayen, and then struck south between the ice-pack and the mainland of E. Greenland. They had only entered two bays on the coast and found the climate as warm and

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sunny as in Norway. The rivers swarmed with salmon and the shores with bird life and Polar bears, whilst musk ox were very plentiful. In one month they had killed fifty-four Polar bears and thirty-two musk ox, the skins of which I saw.

Captain Jackman, one of the old Newfoundland seal hunters, with whom I travelled recently, told me that one year he went with his vessel to Jan Mayen, and passed through the ice break to the coast of E. Greenland. Here he got "jammed" and could not get out the whole summer, so conceived the bold idea of driving with the current right down the coast. This he succeeded in doing, coming out at Cape Farewell in October. In some of the bays, he said, the number of Polar bears feeding on the young hooded seals was extraordinary. One morning he observed from the "crow's nest," in the whole of the head of one bay that was quite clear of ice, such numbers of Polar bears that they resembled a flock of sheep. At one moment forty-two bears were seen feeding or walking on the floes.

The brown bear (*ursus arctus*) of Europe is still found (though in rapidly diminishing numbers) in Russia, Norway, Sweden, Finland, Galicia, Poland and Hungary. It is said to still exist in the Austrian Tyrol, though probably now extinct in Switzerland and Italy, whilst a few eke out a precarious existence on the western side of the Pyrenees.

Until the year 1880 bears were fairly numerous in Norway, and a sportsman who desired to shoot one had a fair chance of doing so; but now the case is altogether different, for the animal has been so relentlessly hunted by the young Norse peasants on "ski" that it has become very rare. Between 1846-1870, 5,176 bears were killed in Norway, which gives an average of 207 per annum, whilst between 1871-1895, 2,457 bears were killed, an average of ninety-eight per annum. In 1903, fifty were killed. In 1905, only twenty-three were killed in all Norway, and in 1906 nineteen, ten being killed in Kristians and Nordland and not one in Trondhjem. These figures speak for themselves.

The districts most frequented by bears in Norway were Buskerud, Bratsberg, Nedenaes, Romsdal, North Bergenhus, North Trondhjem, Nordland and Finmarken.

A few bears are still to be found in Bratsberg (Thelemarken) and Sætersdal, as well as in Kristians, Buskerud, Romsdal, North Trondhjem and Finmark, but the chances of seeing one nowadays are remote unless the elk hunter is very fortunate and spies one by chance. The late Sir Henry Pottinger only killed one in the course of all his Scandinavian experiences.

EUROPEAN BROWN BEAR

PLATE LXXVI.



THE EUROPEAN BEARS AND THE WILD BOAR

It is only in the north of Sweden that bears are usually met with. In Central Sweden they were not uncommon within the memory of living men, but there they are now nearly, if not quite, extinct. It is estimated that there are not more than twenty or thirty bears now in Jemtland and Angermanland. In Lapland bears are commoner, but since the building of the railway they have been much persecuted and are in danger of extinction.

The following statistics drawn up by the Board of Domain Administration show the number of bears killed in Sweden from 1894 to 1905: 1894, twenty-two; 1895, twenty-one; 1896, fifteen; 1897, ten; 1898, four; 1899, eleven; 1900, eleven; 1901, eleven; 1902, thirteen; 1903, twelve; 1904, fifteen; 1905, ten. The increase after 1898 is no doubt due to the construction of the railway in Norrbotten, which has facilitated and increased the means of communication and brought hunters to these parts.

"Snowfly," writing in the "Field," June 2, 1906, says:

"Formerly bears were to be found throughout the whole of Sweden; in the latter part of the seventeenth century most of the Royal bear hunts were held in Södermanland and Vestmanland, a short distance only from Stockholm, and up to the middle of the nineteenth century these animals were fairly plentiful as far south as Dalsland, Vermland, and Dalecarlia, where, it will be remembered, Lloyd did most of his hunting.

"As showing the alteration which has taken place, while out of 1,351 bears killed in 1827-36 in the whole of Sweden, forty-one were accounted for in the country to the south of Vermeland, Norrland, and Dalarne; three only were shot there in 1857-66 out of a total of 1,113, and none at all since then. Now these animals exist only in Herjeådal, Jemptland, and the inland wilds of Vester and Norrbotten, possibly also in northern Dalarne, and in the whole of Sweden not more than fifteen or twenty are killed annually. The last bear was shot in Kronobergs Län in 1844, in Östergötlands in 1830, in Göteborgs in 1844, in Elfsborgs in 1851, in Upsala in 1855, and in Orebro in 1857.

"In consequence of the small number of bears now existing in Sweden, and the little harm which they do to the farmer, they are seldom hunted except when 'ringed' in their winter abode; but formerly 'skalls' for their destruction were held on a large scale. The greatest of these drives ever undertaken was carried out on

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June 25, 26 and 27, 1856. It took place at the northern end of the great Dalecarlian Lake Siljan, in the extensive forests along the Vanan, a tributary of the Vester Dal River; 4,000 men from the parishes of Mera, Sollerö, Elfdal, and Venjan formed the driving line, which, with the wings, extended over a distance of sixty kilometres. On the two nights which intervened halts were made and huge fires were lit in order to prevent the wild animals from breaking back, and not until late on the third day was the place reached where the rifles were stationed. Twenty-three bears, nine elk, three wolves, and a lynx were killed, a result which was considered highly satisfactory.

“In September, 1737, a great skall was carried out by order of the King, in the parish of Vahla, Vestmanland, under the direction of Hofjägmästare Andreas Schönberg. It lasted four days, and besides many hares and game birds, six large bears, twelve elk, three wolves, three lynxes, and a fox were killed. Apart from Royal personages, to whose exploits the artificial element is generally a main contributory, Hofjägmästare Falk, Lloyd, and the Finnish officer, Major Berndt Höök (who died within the three last years) have probably accounted individually for more bears in Northern Europe than any other sportsmen of late years. The two first-named shot about 100 apiece to their own rifles, and the last, who did most of his hunting in the wilds of Russian Karelia, at least as many, besides being present at the death of quite double that number. In the fourth number for 1895 of the Finnish magazine ‘Tidskrift for Jägare och Fiskere,’ it is stated that quite recently the well-known sportsman, Forstmästare Gösta Wasastjerna, had killed twenty-six bears in the eastern forests of Finland, from which it would appear that there was a fair stock of these animals in those parts.

“Owing to the character of the country, bears, although nowadays far from plentiful, are more numerous in Norway than in the sister kingdom, and between fifty and sixty are annually killed there. At one time they must have been undoubtedly of very frequent occurrence, and inhabited districts from which they have long since disappeared. Thus, according to the old writer, Peder Claussön Früs, one man killed fifteen of them in a single winter, about the year 1560, with a steel bow, in the Lister country, and was himself killed by the sixteenth; while, curiously enough, he states that bears were more plenti-

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ful in the islands of Lofoden and Vesteraalen than anywhere else in Norway. They did great damage not only to cattle, but also by the abstraction of quantities of dried fish and fish oil; and in some places they were to be seen in 'great herds.' "

Bears are still fairly numerous in East Finland, but are steadily diminishing in Russia within reasonable distances of Moscow and St Petersburg, but they are still fairly plentiful in outlying Governments, such as Olonetz. These Russian bears are by far the finest in Europe, two which are now in the Russian Embassy being 7 ft. and 7 ft. 6 in. in length, and one almost as large as American grizzlies. In 1899 I saw a very fine bear, killed by the Postmaster of Tunsdalen, which measured 7 ft., and this may be regarded as an exceptional animal; whilst one figured by Lloyd in the "Scandinavian Adventures," and killed by him in Sweden, must have exceeded these dimensions.

Bears are probably more numerous to-day in the East Carpathians (Galicia) than anywhere else in Europe. I saw traces of them wherever I went in the mountains, though I only saw one large male in a wild state, and the adult female shot by Prince Fürstenberg. These Carpathian bears are small, seldom reaching over five feet in length.

The colour of the brown bear varies from a light silvery grey to black. Most specimens are, however, of a rich brown, and others possess a light chest and shoulder mark. Another common type is straw coloured over the head and upper parts, passing into brown below and almost black-brown on the legs and feet.

The brown bear goes into winter quarters about the last week in October or early in November. Here he falls into a lethargic state, in which he remains until the middle of April, but the date when he comes out again is always doubtful and varies according to the mildness or severity of the season.

In early spring the bear is lean and scraggy, although his coat is in good condition. He eats ant-grubs, grass roots, or any putrid carcass he can find. Later he picks up all sorts of small forest and mountain creatures, from lemmings to young birds, though the principal diet is sow-thistle, angelica and cow-parsnip. In autumn he finds all kinds of beetles, grubs, ant eggs, slugs and frogs in the woods and meadows, barley oats and rye in the clearings of the forest, not to mention an occasional horse, sheep or pig from the hillsides or outbuildings of the peasants. But the brown bear is not always destructive to living animals, for there are many instances

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both in Norway and Sweden of these animals living for years on an insect, vegetable and fruit diet amid sheep and horses and doing them no harm. Like other predatory animals, however, once a large and powerful bear has learned how to attack and kill horses and sheep he will repeat the experiment frequently unless shot.

In the autumn the principal food of this animal is found in the berry patches. He is fond of juniper and rowan berries and will climb trees and break off the branches. Of low-growing berries he has an especial taste for cloudberry, raspberry, cranberry, crowberry and whortleberry.

The methods of hunting the brown bear in Europe are various. In Norway and Sweden the commonest is to range the woods in winter with several dogs and find the "hie" or winter retreat of the bear. The hunters run on "ski," and if the travelling is good the dogs soon run the quarry to bay, when it is easily killed with modern rifles. In former times, with indifferent rifles, this sport was dangerous, but it can hardly be said to be so now. Many bears are also killed by the young peasants, who find a fresh track in the snow in spring and run it till the bear is finally exhausted. A Grondalen boy of nineteen, named Elias Lilljefeld, told me that in the spring of 1899 he found the track of a large bear in the valley and ran it, without a dog, for three days without halting before he killed it seventy miles distant. He slept in the woods and subsisted on two cakes of "flatbrod."

When the bear first goes into winter quarters it does not sleep very soundly, and the hunter should be accompanied by a properly trained bear-dog, who, when held in harness, will lead the sportsman direct to the "hie." The greatest caution should be observed in approaching the den as the hearing and scenting powers of the bear are as acute as those of an elk. When moved a bear generally runs down wind and will do so in a provoking manner all day, so that a stern and often unsuccessful chase is the usual result. Bears have wonderful staying powers and can clamber and roll up and down hill faster than any dog.

Bears feed in the autumn at dawn and sunset in the great patches of blueberries and most of those that have been killed by English sportsmen have been shot after being spied and stalked at such times.

If there are fresh bear signs in a neighbourhood it is a good plan, even if the main pursuit is elk, to spend a few hours each evening in spying blueberry patches, for a bear does not readily leave any place where food

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is abundant and generally lies up in the dense windfalls of the forest all day, close to the site of his feeding-ground.

Bears feed slowly if food is abundant, but wander about and more quickly if the berry patches are much separated. It is well to observe the direction in which the beast is moving and to come in on a slant from above so that his line of movement may be cut.

In the Carpathians and in Hungary bears are usually killed by driving the woods after the stag season has ended, the guns being posted ahead, down wind. Four or five are usually killed in this manner.

Another favourite method in North-Eastern Europe is to kill an old horse, and after allowing it to lie for two days to wait for bruin in a tree platform. I have done this once or twice and have found that the bear, if an old one, generally "circles" round the carcass and gets the wind of the hunter first and so does not come to be killed, or it advances when it is pitch dark and impossible to shoot. Once, in Newfoundland, I had an opportunity of witnessing the manoeuvres of an old bear that had been feeding on the carcass of a caribou stag I had shot a week previously. The bear approached the carcass at a gallop to within 150 yards and then made wide circles round it for at least ten minutes, stopping frequently to stand up and get the wind from every available quarter. If the hunter had been concealed anywhere near the bait he would most certainly have been detected.

In Russia, Finland, and occasionally in Sweden and Norway a regular trade is made in the sale of bears, whose winter "hie" or "berloga" has been marked. Sportsmen who desire to shoot bears roused from sleep have to pay from forty to seventy roubles (£4 to £7) for the privilege if it may so be called; whilst if the bear, when killed, proves to be of exceptional size as much as £25 has to be paid.

Bear shooting by this method can scarcely be called "sport," as with modern rifles it is no more dangerous than shooting tom-cats in a back garden. The so-called huntsman stations himself, with loaders at his side, so as to command the bear's retreat, and the bear itself is prodded out by a crowd of peasants armed with long poles or assisted by barking dogs. The bear possibly may be angry at being aroused and emit a series of growls, but the poor beast has no earthly chance to retaliate on his foes, so powerful is the effect of a bullet fired by a high velocity rifle at short range. If by any chance the bear is missed it usually escapes. In old days brave men would stand at the mouth of the den and receive the bear's first

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rush on the point of steel-tipped spears. There was some fun in this and the man did not always escape scathless, but shooting bears out of their winter dens is not the kind of sport that anyone calling himself a hunter should indulge in. When hunting other animals in the forests of Europe, Asia and America there is always the chance of meeting a bear wandering about, and it is well to remember that the shot, when it presents itself, should be taken quickly, for bears have a way of seeing very quickly and vanishing out of sight when the hunter thinks himself unnoticed. They are tough animals and take more killing than most beasts, so that it is well to shoot as long as they show signs of moving.

WILD BOAR

The wild boar is common in Spain, and fairly numerous locally in south-west and northern France and in Belgium, where it is partially protected. A few still roam the Ardennes and throughout Germany it is preserved in a great number of enclosed and open forests. It is also numerous throughout the Hungarian forests, in the marshes of the Danube, and all the other Austrian dependencies. In a completely feral state wild boar are found throughout the Carpathians and to the east in all the Balkan States, Turkey, Asia Minor, Palestine, the Caucasus, Armenia and Persia. They are also common in Sardinia. Nowhere does the wild boar grow to such a large size or carry finer tusks than in Algeria and Morocco, and here every forest range and grassy jungle or swamp hides numbers of these animals. They are also very abundant in the swamps of Mesopotamia. The Indian wild boar is only a smaller and localized form of the European species.

Wild swine must have been very abundant in the British Isles in former times, their remains being very numerous in all deposits from the Pleistocene age onwards, throughout the historic period until the end of the seventeenth century, when they were found to be such a nuisance to agriculture that they were destroyed ruthlessly by gun and trap. In the twelfth century wild swine overran England and Ireland, whilst they were also very common in the south of Scotland. The successive Kings and nobles hunted them regularly until 1600. Full particulars of the "last" of the British wild boars will be found in my work on "The Mammals of Great Britain and Ireland," whilst it seems the species became extinct in Scotland at the end of the eighteenth century.



EUROPEAN BROWN BEAR, FROM GRONDALEN, NORWAY, Sept., 1899.

Shot by Mr J. G. Millais.

PLATE LXXVII.



THE EUROPEAN BEARS AND THE WILD BOAR

Those who wish to add this gallant foe to their list of trophies can still do so by going only a few hours from London. There are "shoots" both in Belgium and Normandy where twenty or thirty wild boars are usually killed in the winter drives. For those who love company and good fellowship in sport this is doubtless good fun and not a little dangerous, for the hunters usually exceed the game in their numbers and are often so keen and enthusiastic that bullets are apt to fly in all directions. Yet most Englishmen are solitary creatures, preferring to hunt alone and to find and stalk their quarry after some display of venery. So they will go farther afield where they can stalk it on some open hillside or take their chance of a shot when the game has been moved in some hastily improvised drive by peasants.

For courage the male wild boar has no equal amongst wild animals. A single Indian pig has been known to beat off a tiger, whilst a European boar will often successfully charge through a whole line of guns. From Holinshed, who speaks of boar-hunting as a "verie dangerous exercise" to Major Shakespear and Colonel Kinloch, all hunters endorse the amazing pluck of this animal. An old wild boar really knows no fear, for he shows his fighting disposition from the moment he is aroused. He trots away slowly as if under protest and with a sullen savage gleam in his eye, plainly evincing that he would rather stop and fight than run. Even when attacked with modern rifles many accidents have happened, whilst a few hunters have been actually killed. Only three years ago a wild boar that had been wounded by a Paradox bullet in Normandy fatally ripped two sportsmen, both of whom died of their wounds.

Combining as he does both pace and strength as well as pluck, English sportsmen delight in hunting the wild boar with rifle and spear as our forefathers did with horse, hound and lance; but as it does not come within the province of this work to describe sport with wild animals other than with the rifle we must leave hunting with horse and spear to other and more experienced writers.

There are many places where the sport of hunting the wild boar with horse, hound and spear is impossible, and where the animal is such a curse to agriculture that he must be destroyed by any available means.

"From the Black Sea to the Bay of Bengal," says Mr Phillipps-Wolley ("Enc. of Sport," p. 121), "there is a ringing of bells by night, a blowing of horns and sounding of clappers, together with an irregular musketry fire all through the ripening time of the grain,

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and all this in honour of the great wild boar, who as soon as dark comes, steals out from the wooded foothills or the stony gorges, and trots down to the cultivated grounds to dine."

The average height of a big boar is about 35 inches at the shoulder. The colour of the upper parts, cheeks and crown are a grizzled grey-brown, whilst the throat, above the snout, and all the lower parts and legs are black. A circle of light grey passes along the lips and up the front of the face. The largest males weigh as much as 600 lb. (complete), whilst those of North Africa probably exceed this weight occasionally. Captain Baldwin gives the measurement of a large boar killed by him in the Himalayas as 5 ft. 10 in. in length and 36 in. at the shoulder. European tusks seldom exceed 8 in. to 9 in. in length, whilst records of or over 9 in. or 10 in. are rare. The largest, from a boar killed in Scotland (in 1124), hung for many centuries in the old Cathedral at St Andrews, and though I tried to trace its present resting-place I failed to do so. It was said to be 12 in. in length. Mr Phillipps-Wolley mentions a pair of tusks from the Caucasus which he himself measured as 11½ in.; and in the 1910 Vienna Exhibition was seen a pair of 11½ in. from a boar killed by the present Emperor of Austria. The largest European tusk known to exist is a right one, owned by Lord Brackley, from a pig killed in Albania. It measures 13 in. Another, from a boar killed in the same country, measures 12 in. and belongs to Lord Carnegie.

The Spanish wild boar is a smaller animal than that of Eastern Europe and seldom weighs more than 300 lb., whilst those of the British Isles must have been even smaller than this.

The times of activity of the wild boar, as with so many forest animals, are more or less crepuscular or nocturnal. For the greater part of the day the single old boars or droves of wild swine lie hidden in thick scrub or dense grass and jungle, only coming into the open at dusk to feed. In places where they are at constant warfare with the peasants they do not move until it is dark and then boldly assail forest edges and cultivated ground. On the whole, they are very clean feeders, including in their diet a host of roots, nuts, fruit and grain. They can burrow deep into the ground with their powerful teeth and often destroy as much as they consume. In the spring and early summer they keep much to the forests, finding in them an abundance of edible roots, whilst in the autumn chestnuts and acorns are a favourite diet; but in early autumn they create much havoc in the open fields and are as great a trouble to the owners of small crops of grain, millet and Indian corn as the elephant is in Africa.

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During the summer months they create innumerable wallows in the marshy parts of the forest and love to bathe and roll here in the warm hours. I have generally found it useless to try and shoot these animals in the daytime, as they are very difficult to see and when stumbled on by accident rush off through thickets, thus giving the hunter no chance of a shot. At daybreak or sunset the case is sometimes different, for in unfrequented places the sounder of hogs can often be detected slowly feeding by the hunter, as he creeps through the forest in his rubber-soled boots. Old boars are on such occasions more easy to approach than deer or bear, and it is not difficult to crawl within shooting range. There is not much danger in shooting a wild boar unless it has been wounded and followed, though there are occasions on which its temper having been ruffled it will charge without warning. If the shot is not immediately fatal it is best to wait an hour to give effect to the wound and then to approach the wounded beast *from above*.

Nearly all the boars killed in Germany, Austria and Albania are shot by driving the forests with a crowd of beaters, and but little danger attaches to this sport if the hunter is careful in approaching wounded males. As a rule the beaters are accompanied by dogs, so that when these come up, as they do at the end of a drive, the shooter need not take unnecessary risks unless he wishes to do so. As many as eighty to one hundred wild boars (males and females) are sometimes shot in some of the big drives in Germany, organized for the amusement of the Kaiser and large landowners; but as the animals are generally bred in park-forests, much as our own fallow deer are, the shooting is not a high form of sport nor a dangerous one, each of the guns being hidden and protected by a scrub-redoubt.

CHAMOIS

ALTHOUGH so small an animal, the chamois is one of the most important beasts of the chase in Europe, and its agility and natural intelligence, and the high and difficult mountains in which it lives, render it one of the finest quarries of the true hunter. Chamois are to be found in most of the high ranges of Central and Southern Europe. Their range extends from the Pyrenees to the Caucasus and from the Southern Carpathians to Albania. But it is in the Alps that chamois are most abundant; there, out of some 11,000 killed annually in these mountains 8,000 are shot in Austria. The aristocracy of the dual monarchy have always been devoted to chamois hunting; so that it is not surprising to find that these animals are, on the whole, on the increase in Austria, whilst in the neighbouring Republic of Switzerland they are decreasing. Several of the Swiss Cantons have, however, been aroused to the fact that an animal which invests the mountains with so much of interest and romance will shortly become extinct unless prompt measures are taken, and have done all in their power to pass laws for its protection.

Those who desire to shoot this fine sporting animal will do well not to waste time in its pursuit in the Pyrenees or Albania, where the chances of success are by no means certain. Sport certainly is cheap in these places, but the cheapest way is not often the best. Yet a young man of the right sort who can climb and shoot might do worse than explore the untrodden ways of the Caucasus, where, if he is lucky, persevering and a good linguist, he might have exceptional sport amongst the chamois at a small cost, as well as having the chance of adding such desirable beasts to his bag as ibex and stag.

There are, unfortunately, but few young men nowadays who are original and have the necessary gifts of a hunter, so it is unusual to find one who will break away from the beaten track. Yet we have only to see what Mr St George Littledale did in 1887, when, going into comparatively unknown ground in the Caucasus, he killed in one season eleven chamois, seven stags and seven ibex. This is a better all-round bag than could be obtained anywhere in Europe on the highest-priced and most carefully preserved territory.

The average hunter will always follow on the heels of the last man who has been successful, and so those who wish to ensure success and are able

CHAMOIS

to pay for it had much better take one of the peasant-shoots or privately-owned grounds of the Austrian nobles, some of which are always to let. In Tyrol, the Bavarian Highlands, Upper Austria and Styria are situated the best grounds for chamois, and these are in the hands of the Austrian nobles, the Imperial House, or foreigners. As a rule, sport on the peasant shoots is not great, as they are open to the native mountaineers, who are, as a rule, keen sportsmen and ever harassing the game. Many of these shoots, too, are on the edge of large preserves, which are only disturbed for a fortnight or so in the autumn, so the chamois get to know what is "sanctuary" and are careful in the choice of their habitat. To kill chamois on a peasant-shoot often requires all the hunter's skill, but to do so on a carefully preserved shooting often requires no greater effort than is required to shoot a stag in Scotland.

Most of the big chamois drives take place in September, and enormous bags are sometimes made in the best shoots. On August 31, 1892, ninety-four chamois were shot in one drive on Prince Auersperg's famous preserve in the Zillertal, and the result of six days' driving was 222 chamois to five rifles. Only bucks and barren does were said to have been killed.

The nature of the ground frequented by chamois varies greatly.

In the Bavarian Highlands, where they are most abundant and most carefully preserved on the Royal shoots, the "guns" ascend to their respective places of concealment on horseback; whilst in parts of Styria and Tyrol and Switzerland, where chamois are assiduously hunted, these animals often keep to the most difficult ground on and above the timberline, and a man must have a good head and be a powerful climber to hunt with any hope of success. Where chamois are plentiful they have to be strictly guarded day and night, for the gallant "freeshooters of the Alps" are ever on the watch to pick off any venturesome buck that comes near the peasant marches, and betray such energy and persistence in their unauthorized sport that it requires the very best keepers to hold them in check. Consequently the great nobles take a certain pride in having the most dare-devil poachers as their keepers, and the trust is seldom, if ever, misplaced. These Austrian, Swiss, Italian and Carpathian poachers are, as a rule, magnificent specimens of manhood, and many stories are told of their magnanimity and love of sport, for it is purely for the love of the chase that they hunt. With them poaching is no ordinary stealing for the sake of gain, but often a game of life and death in which they frequently hold the losing hand.

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The chamois is somewhat more stoutly built than the roe, a good buck from the Alps weighing as much as 60 lb. Mr Baillie-Grohman mentions one killed in the Dolomites by himself as weighing 73 lb., whilst bucks from the Southern Carpathians often far exceed this weight. Tschuddi mentions an authentic instance of a buck weighing 125 lb., and another of 92 lb., the latter killed in 1870 on the Santis. The big buck killed by Count Teleki in Transylvania in August, 1891, weighed 123 lb. clean. Does are not so heavy, usually weighing 45 lb. to 50 lb.

A trophy often seen in the hats of continental sportsmen is the "gamsbart," or "Beard of the Chamois." The name, however, is somewhat misleading, as the collection of bristles is made from the hairs that grow along the backbone of the buck chamois, from neck to rump. In summer these hairs are short but by the time of the rut in November they are often six or eight inches in length. Large sums are spent on particularly fine bunches, £10 or £15 being no unusual price. At the Vienna Exhibition in 1910 a crowd of sportsmen often presented a curious and waving mass of grey plumes, and it was often noticeable that the stouter and less athletic in appearance the man, the larger was his "gamsbart." These back hairs of the chamois are positively electric if stroked from the roots towards the tips and negatively so if rubbed in the other direction.

The horns of the buck chamois are not large and seldom tape more than 10 inches in length. Mr Baillie-Grohman states that "The chamois horns of the Epirus, the Carpathians, and the Pyrenees are smaller than those found in the Central Alps," but this is not the case with regard to those of the South Carpathians, which are, on an average, larger than those of the Alps, some of the best trophies known having come from the shootings rented by Mr Danford.

The longest females' horns were shot by Mr J. D. Heaton Armstrong in Carinthia recently. They measure $12\frac{1}{2}$ inches. The Emperor of Austria, who, between 1849 and 1902, has killed 1,991 chamois, also possesses a female with horns $11\frac{1}{2}$ inches in length, which he killed on July 26, 1889, at Salz Kammergut. One of $11\frac{1}{2}$ inches was shot at Retzewat, South Carpathians, by Baron Nopcsa.

One of the best chamois preserves is the long and jagged limestone ranges, intersected by deep ravines on the Bavarian boundary. Here are five royal chamois shoots, almost touching one another, and two others which are sometimes to be rented. The annual bag ranges from 500 to 800 chamois, most of them being killed in the great drives that take place

CHAMOIS

CHAMOIS HORNS (BUCKS).

Length on Front Curve.	Circ.	Tip to Tip.	Spread.	Locality.	Owner.
12½*	—	—	—	Hungary	Baron Donald Schönberg
12½	—	—	—	Hungary	C. G. Danford
12½	4½	—	7½	Carpathians	Count Arpad Teleki
12½	3½	5½	6½	Carpathians	C. G. Danford
12	4	—	—	Hinter Riss	H.R.H. the Duke of Saxe-Coburg and Gotha.
12	—	—	—	Tyrol	Count Arco
12	—	—	—	Carpathians	Count Zdenko Kinsky
11½	—	—	—	Carpathians	Count Erbach
11½	3½	6½	—	Engadine	Sir A. Pease
11½	3½	7½	—	S. Austria	J. H. Leigh
11½	3½	5½	—	S. Austria	R. K. Cross
11½	—	—	—	Carpathians	G. von Kendeffy
11½	3½	4½	—	Transylvania	F. C. Selous
11	3½	7½	—	Transylvania	St George Littledale
11	3½	5½	—	—	Count John of Meran

in autumn. One of these "Royal" drives was shown recently in Vienna on the cinematograph, and the pictures convey an excellent idea of the day's proceedings. The rifles, numbering eight or ten, rode up the mountains to the stone shelters to which the game was driven. Literally hundreds of chamois came to the guns, and in the pictures a string of advancing game, halting, running and springing over the rocks, as well as the shots that proved fatal, were clearly seen. I must confess that the sport did not impress me greatly, any more than the pictures of a distinguished person shooting twenty or thirty foxes with buckshot did. In chamois driving any skill that is required is exercised by the beaters, who often have to undertake severe climbs and use much ingenuity in keeping the game forward to the guns. The wind in high mountains is always a doubtful element and may put chamois off the ground by passes known to them before they can be prevented. In wide areas a large number of drivers could hardly force the game in the required direction if the wind is wrong and, in consequence, the "lappen" or flags are employed. These aids to sport consist of miles of stout cord to which at intervals of every few feet bright-coloured pieces of linen are attached. They are kept in position by rods fastened in the rocks and the line, when fixed, serves as an effective barrier, as the flags wave to and fro in the breeze, to chamois that would break out of the drive. Generally the "lappen" are strung out along the ridge of mountains to be enclosed.

*Some doubt exists as to the measurement of this head. The above is, I think, the correct length.—J. G. M.

THE GUN AT HOME AND ABROAD

The colour of the chamois in summer is a greyish dun, with black markings on the face, but in winter the hair becomes much longer and is almost black.

Albino and pale varieties are not unknown, but are extremely rare. There is a superstition in Tyrol that the man who kills a white chamois will die within the year. In some parts of Styria and Salzburg there sometimes occur melanistic chamois without any pale markings on the face, and these are known as "coal" chamois."

Chamois are gregarious and found in small herds. They are very watchful for their safety, and usually post a sentinel to guard against surprise. Old bucks, as a rule, seem to prefer a solitary existence during the greater part of the year, and are only found with the family parties in the rutting season in November. At this season the glands at the base and behind each horn of the male become greatly swelled and are filled with a pasty lymph which has a disagreeable odour. At other seasons these glands are not visible externally. The period of gestation is twenty weeks, and the female produces one and rarely two kids.

The agility and sureness of foot of the chamois are proverbial, and it is one of the most remarkable sights in Nature to see these animals ascending a steep rock face or descending hard ice coated with snow. The hind legs of the chamois are much longer than the forelegs and built, as it were, on powerful springs, so they can ascend precipitous faces more easily than they can descend them. In fact chamois can pass up cliffs that look quite inaccessible, springing from ledge to ledge and balancing on the tiniest projection. A road is formed uphill, which to man, with his clumsy feet, would be impossible, yet in coming down at leisure chamois do not choose such difficult places by which to descend but rather pick out the easier way of snow slides, moraines and grass-slopes, for it is only when forced to do so that they make a steep descent. They are said to be able to "glissade" down a snow-slope with all four legs held well forward to grip the snow, and the false hoofs, which are very strongly developed, act as a brake. This is the subject of one of Joseph Wolf's most charming pictures of these animals. He told me he had himself witnessed it in the Tyrol several times.

The lessee of a Highland deer forest in Scotland probably gets less for his money than any other sportsman in the world, whilst to successfully stalk and kill the stag at the rutting time is not a great effort of skill. Scottish deer stalking is an excellent training for the youthful hunter,

CHAMOIS

but to the skilled rifleman it scarcely presents enough difficulty or variety, wherefore it is all the more surprising that the various and excellent roe, stag and chamois shoots in Austria, that often come into the market, are not more largely sought for by British sportsmen. These can often be rented at a price at least one-fourth of what a small Highland forest would cost, whilst the other expenses are small. Three or four stags' heads really worth putting on the walls of one's house ought to be killed in a season, whilst the chase of chamois and roe by fair stalking is a sport of the highest class.

In Austria the rifle now generally used is the Mannlicher-Schoënauer, an excellent weapon, with a very flat trajectory. The old Rumanian Mannlicher is equally good, but the opening below the magazine is bad, and allows snow, dirt, and vegetable matter to enter when crawling. Telescopic sights are generally used in Austria, and some riflemen become very adept at using this aid to sight, even at moving objects. In many preserves only single-barrelled rifles are permitted, as this is found to be a great deterrent to wild shooting. The Emperor of Austria never uses a magazine rifle. The rifle should be light and handy, and for chamois shooting perhaps the best made is a small double-barrelled .360 manufactured by Springer, of Vienna. It is quite a little toy to look at, but wonderfully effective even at long ranges. The rifle should have a sling.

Other appurtenances of the chamois hunter are the (1) *Rucksack*, a strong bag of canvas, furnished with two leather straps, through which the arms are passed; in this he can carry food, drink and *Steigeisen*, or crampons, which are necessary in long grass or on ice. (2) The boots should be the mountaineering boots of the country, with a row of large flange-nails on the outer edge of the soles. (3) The *Berg-stock*, or staff, should be of well-seasoned hazel, a foot taller than the man himself, and have an iron point and be capable of bearing a man's whole weight. (4) A good telescope or field-glass. Ordinary shooting clothes of grey or green are generally worn, whilst the chamois-hunter "shorts" of the country are most serviceable, ordinary knickerbockers being unable to stand the wear of the rocks.

EUROPEAN GOATS AND SHEEP

THE ibex or wild goats that inhabit Europe are of three varieties, namely, the Alpine ibex, or steinbok, *capra ibex*, which is now only to be found in the Royal preserves of the King of Italy, on the southern side of the Alps; the Spanish ibex, bouquetin, or Spanish tur, *capra pyrenaica*, found in the high mountains of the Spanish side of the Pyrenees, the Sierra Nevada and Sierra Morena, the ranges of Andalusia and Estremadura and Eastern Portugal; and a small race of the Persian wild goat, *capra aegagrus*, found in the island of Crete. Although there are many races of the common goat, *capra hircus*, in various parts of the world, they are only feral in Europe in Wales, England, Scotland, and some of the islands of the Greek archipelago, where hybrids also exist between this species and the Persian wild goat. The Alpine ibex is about 40 inches in height at the shoulder, the pelage is coarse and thick in winter, with a heavy under fur; in summer the upper parts are reddish-grey and in winter yellowish-grey; under parts paler and separated by a chocolate-brown stripe; forehead, cheeks, nose, throat, beard and upper surface of the tail and lower portion of the legs dark brown; on the chin and in front of the eyes and below the ears the colour is rusty yellowish brown; under parts of the abdomen nearly white. The horns of the male are brown and seldom exceed 30 inches, the finest specimen being one of $38\frac{5}{8}$ inches, killed by the King of Italy at Aosta. Brehm gives the measurement of the longest known as 40 inches, and in the Imperial Museum at Vienna there is a head (without locality) of $39\frac{3}{4}$ inches. In the last edition of Rowland Ward's "Records of Big Game" (p. 373) there is given the measurement of an ibex head of $44\frac{5}{8}$ in., now in the possession of the King of Italy, which is supposed by the owner to be the head of a steinbok. This is, I am sure, a mistake. Some one has presented his Majesty with an Himalayan ibex head and an error has occurred.*

There seems to be much confusion with regard to the exact measurements of the ibex heads in the possession of the King of Italy. It is possible that the head of $38\frac{5}{8}$ inches may be correct as it may have been killed recently. Mr Baillie Grohman ("Sport in the Alps," p. 267) says that Count E. Hoyos measured these ibex heads, and found the longest to be only $30\frac{1}{2}$ inches. Again, in the supplement to "Country Life," we are

*The head figured by Ward on p. 372 (sixth ed.) is certainly not that of a European Ibex, as it is supposed to be.



EUROPEAN IBEX, from Styria.

Length $34\frac{1}{2}$ inches; Circumference $9\frac{1}{2}$ inches.

In the Collection of Sir Edmund G. Loder, Bt.

PLATE LXXVIII.

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shown the "record" pair of European ibex horns shot by the King of Italy, the measurement given being 31·89 inches.

The front surface of the horns is very broad and the horns themselves scimitar-shaped and not unlike those of the Arabian ibex, but not so large or so broad in the tranverse knots. The horns of the female are thin and short, seldom exceeding six inches and similar in form to other species of ibex.

The range of the steinbok is now only on the south side of the Swiss Alps and Savoy, although till recently they were carefully preserved in the Austrian Tyrol. It was found, however, that the animals offered such an inducement to poachers and so many lives were lost in the strife to retain them that the Austrian nobles allowed the species to become extinct.

The extermination of the ibex in Europe seems to have been effected at an early date. In the valley of Martinswand the last seems to have been killed in 1540 (Klar), whilst it disappeared from the Canton Glarus in 1550, and was very rare in Granbünden in 1574. In the seventeenth century it was scarce in Bergell and the Upper Engandine, where in 1612 its destruction was prohibited. At the end of the seventeenth century it was still found near Bagnethal, and at the beginning of the eighteenth century in Wallis, since which date it has vanished from Switzerland.

In 1666 the species survived in the Zillertal, in Tyrol, and in 1694 an official census gives seventy-two bucks, eighty-three does, and twenty-four fawns as living in Tyrol; but by 1706 these were reduced to five bucks and seven does, after which they seem to have vanished.

Some time, however, in the nineteenth century they were reintroduced into Styria, but became extinct a few years ago for the reasons already mentioned. The ibex first disappeared from Styria about the year 1780. Sir Edmund Loder possesses a remarkably fine pair of 34½-inch horns, which were killed in that country (see illustration).

On the Piedmontese side of Monte Rosa, owing to Government protection, herds of ibex exist in several valleys, although it is doubtful to what extent these are pure bred, since many hybrid *ægagrus* have also been introduced. In early days the species may have been numerous, for 100 or 200 head of wild goats were exhibited alive in the Roman amphitheatre, but it is not certain to what species they belonged.

The general habits of the steinbok are similar to other species of ibex: the males do not consort with females, except during the rutting season in

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January, but keep to much higher places above the snow-line, except at feeding hours, when they descend.

Unless he is favoured with an invitation to take part in one of the drives organized by the King of Italy, the sportsman has little chance of seeing this fine animal in a wild state.

The Spanish ibex is a smaller animal than the steinbok, measuring only some 32 inches at the shoulder. The beard in this species is long and narrow in old males. In summer the pelage is dark greyish-brown, with the nape of the neck, a line down the back, a band on the flanks, and a considerable portion of the legs, blackish brown; the sides of the face are brownish-white; in winter the upper parts are brownish-grey, with all the dark parts quite black and the inner sides of the thighs and back of the legs whitish; beard black and horns brown.

The form of the horns of the male is half-spiral, the direction being at first upwards and outwards, but afterwards backwards and then, at the points, inwards. They are triangular in shape with a sharp inner edge, with the front surface irregularly divided into lateral ridges or knobs.

The finest specimen I have seen and measured is in the collection formed by the late Sir Victor Brooke. It was killed by himself in the Pyrenees and measures 31 inches in length. Another, mentioned by Chapman and Buck, measures 30½ inches.

Many British sportsmen have pursued this cunning animal, but few have succeeded in securing an adult male owing to its secretive habits, and its love of dense bush, caves or Alpine fastnesses, where the foot of man cannot tread. The best accounts of its pursuit are to be found in Messrs Chapman and Buck's "Wild Spain," and in Mr E. N. Buxton's "Short Stalks." In the former work it would appear that the Central Spanish race frequents the highest and most rugged peaks at elevations over 10,000 feet. In the Sierra de Gredos the herds sometimes number 100 to 150 head, but are always most difficult either to drive or to stalk. On the other hand, in the Val d'Arras the bucks appear to go singly and to frequent dense scrub, where it is impossible to spy them with the glass. Accordingly the only chance for the sportsman is to get the local peasants to drive them, and even this expedient is seldom successful. In Central Spain the males keep apart from the females and young except during the breeding season. Occasionally they descend to the timber-line to feed, but always return to the inaccessible peaks during the day. In winter the females and ewes sometimes descend to the neighbourhood of the high

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villages during severe weather. Writing of the Sierra de Gredos, which is the chief stronghold of the species in Central Spain, Messrs Chapman and Buck say:

“ This elevated point is the apex of the long Carpeto-Vetonico range, which extends from Moncayo through the Castiles and Estremadura, forming the watershed of the Tagus and the Douro; it separates the two Castiles, and passing the frontier of Portugal, is here known as the Sierra da Estrella, which (with the Cintra hills) extends to the Atlantic seaboard. Along all this extensive cordillera there is no more favourite ground for the ibex than its highest peak, the Plaza de Almanzor, 10,000 feet above sea-level. During the winter and early spring the wild goats have a predilection for the southern slopes towards Estremadura, but in summer and autumn large herds make their home in the environs of Almanzor and the lovely alpine lakes of Gredos.”

The Pyrenean race are much heavier animals than those of Central Spain and seem to grow slightly finer horns. They are scarce, and live in the worst precipices and are very nocturnal in their habits. They are in consequence seldom seen except in the early dawn or when driven out of the cliff retreats.

The Persian wild goat (*Capra ægagrus*) grows to a large size in Asia Minor, Persia, Palestine, the Caucasus, Sind and Baluchistan, but the European representative, now only found in a wild state in the Island of Crete, is a small animal. Formerly it existed in several of the islands of the Grecian Archipelago, and may possibly survive in a pure state in the island of Tavolara, situated off the north-east coast of Sardinia. Even in Crete the domesticated goats are very similar to the wild ones, and there is little doubt that the two breed together freely in a wild state. But few sportsmen have tried to hunt the Cretan ibex, nor have I met one that has been successful in obtaining good specimens. The goat of the Island of Joura, near Eubœa, has been regarded as a wild animal, but there is little doubt that it is only one of the many semi-wild or domesticated races, with a strong strain of *ægagrus*, that have reverted to a wild state. In Sweden the domesticated goat bears a strong resemblance to the Persian wild goat, and is doubtless descended almost directly from it; whilst even some of our British wild races (such as those of western Wales) are also closely allied.

Wild races of goats vary greatly in their pelage, which is sometimes long and at other times short. They vary in colour from black to pure white, whilst others are of a dun colour or dun and white. The horns of the males,

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too, are either scimitar-shaped like the *agagrus* or divergent on the upper half, like the tur or Spanish ibex, and both forms are often found in the same herd. Horns of 33 or 34 inches are not rare, whilst Scottish specimens have attained 37½ inches in length. The finest head I have seen is one shot by the late Lord David Kennedy on the mountains near Fishguard, in Wales. It measures 36 inches in length and has a very wide span. Wild goats are now numerous in various parts of the British Islands and are found in Wales, several parts of Ireland, notably on the western face of Achill Island, and throughout the deer forests of Scotland. The lover of the rifle who has a month to spend in June or July, when other sport with the rifle, except roe stalking, is scarce, might do worse than pass his time in obtaining a couple of good goat heads. Permission to shoot them is often easily obtained, and the sport is excellent. When they have been pursued for several years goats soon learn to take care of themselves, and even if their chase is not quite so difficult as that of other hill game, the hunter can at least pursue them by himself and *they will teach* him several wrinkles in the art of stalking.

I remember when I was a boy having many delightful and unsuccessful hunts after a herd of wild goats that roamed the Perthshire hills between Rohallion and Kinnaird. There were some fifteen animals, with three fine "billies," and the number of stalks I made with poor results taught me, at any rate, a good deal of what the hunter ought not to do. Of course the young males and females gave several excellent chances, but at the end of two seasons the old males still preserved a whole skin and the horns I coveted.

The best hunt I ever had after goats was in 1891, when I obtained leave to shoot a wild billy that roamed the mountains near Garve, to the north of Strathpeffer. In this herd, which had been wild for a century, was one immense white male and a good black one. For a whole week I pursued the herd, without once getting within shot of the white male, which carried a splendid head. Twice the black male, whose horns were very fair, stood in the way and could have been shot, but I would not fire at him for fear of destroying the chance of getting the big one. So the last day came when I had to return to duty and leave the goats, for that season at least. A fine day and good for spying appeared after a week of rain, and on the limit of my ground I found the herd grazing at 5 a.m. on a steep shale slope. Two old females kept guard, as usual, whilst the males fed and the kids played about. The position the goats were in was in the hollow of a corrie and one

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that would make a successful stalk nearly impossible, so I lay for three hours on the hill above waiting for them to move. At nine they galloped out of the corrie and went nearly two miles to the east, and then, after feeding for a while, all lay down except one female, who stayed on to watch. The position of the goats was now scarcely more favourable than before, so I took up a position about 500 yards above them and waited nearly the whole day for them to move. At four they left their position and began to ascend the hill towards me, and then turned to the west again, as if making for the ground where I had found them in the morning. The two old males, however, lagged far behind, and as I kept parallel with the moving herd the females gave me an opportunity to "cut in" downhill. This I succeeded in doing by taking advantage of a dry watercourse. As soon as the last of the herd of females had passed below, I made all haste downhill and got into a position which I hoped would be well within shot of the lagging old billies as they came into view. After waiting for five minutes the horns of the black male showed up below and to the right just at the spot where I had expected, and presently the owner came walking quietly along the narrow path. He looked a fine beast and had I not seen the big white one I dare say I should have been glad to secure his horns. But I was looking for something better, so he was allowed to pass on. I had rested another five minutes, there was no sign of the white one, and I feared he had passed me by using another road below. Accordingly I descended, and taking the cover of a large rock looked in the direction in which I expected to see the object of my desires. He was, however, nowhere to be seen. He had, in fact, gone by and then ascended abruptly and joined the herd under the hill beyond my vision.

As I knew he would not willingly leave the herd I again ascended the mountain, and after walking half a mile to the west, circled so as to cut the line of the herd of females. I observed them again at 5.30, feeding slowly along below me, and accompanied by the black male. Concluding that the white one had either lain down or was still concealed in one of the numerous depressions above which I had passed, I then retreated on the line the herd had come, spying carefully every hollow. As I crossed an open space something moved on the skyline, almost on the level with myself, and looking intently I discovered it to be the horns of a goat. The next moment the patriarch stepped into view and stood on the ridge. The evening sun shone on his snow-white coat and glistening horns and a gentle breeze waved his mighty beard. He certainly looked finer than many

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a truly wild beast, and I longed to possess those spreading horns. Now he looked straight at me, and being detected fairly in the open one could do nothing but keep quite still and hope for the best. I hid my face in the heather and did not look up until a tinkle of stones warned me the game was on the run. As good luck would have it, however, the goat did not retreat beyond the ridge, in which case he would have been out of sight at once, but ran along it and then down into the dip, attempting to pass below. The shot was a long one, about 150 yards, but I sat up at once and had ample time to achieve a good shooting position. At the first shot from the Mannlicher the goat stumbled and turned straight downhill, the bullet having hit him too low, but at the second he collapsed and was quite dead when I got up to him. This was a very fine specimen. The horns were of the divergent type, 34 inches long and very massive.

The only wild sheep that may be hunted in Europe is the European moufflon, *Ovis musimon*, a native of Corsica and Sardinia. This grand little sheep holds its own in Sardinia, in spite of constant persecution; but in Corsica the numbers are decreasing, although it is well preserved on a few estates.

In size the male is about 27 inches at the shoulder. The hair is close and thick and elongated in winter on the throat of the rams so as to form a distinct fringe, with a thick underpile of wool at the same season. The colour of adult rams in early autumn is a rich rufous-brown, becoming chocolate brown on the head and face. The muzzle, chin, and upper throat are white. The sides of the neck, lower throat, chest, a line on the flanks and the sides of the white saddle, sides of the forelegs above the knees and hind legs above the hocks are black. The underparts, except for a narrow dark streak between the forelegs and the buttocks, pure white; lower parts of the forelegs and hindlegs below the hocks, white. In winter and spring the colour is generally darker.

The horns of the males are very large in proportion to the size of the animal. They form a close spiral curve, generally with the tips bending forwards and outwards, but sometimes turning inwards. Heads from Sardinia are generally larger than those from Corsica, whilst those from Austria are often very massive but not so long. In confinement with good feeding the horns of the male grow somewhat larger than wild specimens. The finest I have seen was one (imported from Corsica) which lived for some years in the small menagerie belonging to the Prince of Monaco at Monte Carlo. I had this remarkable specimen photographed, and although



Photo by]

Dr. G. Millar.

RECORD MOUFFLON.
Length about 40 inches.

PLATE LXXIX.

EUROPEAN GOATS AND SHEEP

I was unable to measure the horns themselves I should say they taped 40 inches. Another fine specimen lived at Woburn and is now in the museum there. I measured its horns as 35 inches. Of wild specimens the best I have seen are one of 34½ inches, shot by Mr W. Moncrieffe in Sardinia, and one of 33½ inches shot by the Hon. M. Egerton in the same island. The females of the Sardinian race usually carry short horns, whilst those of Corsica are generally hornless, though I have seen several from that island that also carried these appendages.

At the present time moufflon are found on the high mountains and heath-covered slopes of Corsica and Sardinia, chiefly in the latter island on the mountain of Gena Gentu. They have also been introduced with much success into several mountain preserves in Hungary and Austria, where acclimatization has caused them to assume a much darker pelage. A fine series of heads of Austrian moufflon were shown at the Vienna Exhibition in 1910, and were chiefly remarkable for the thickness of the horns, most of which curved backwards at the points, and the dark hair on the necks of the males.

The ground moufflon frequent varies much according to the season; in September, when few hunters assail them, they are found in the open grass-covered terraces of the highest mountains, whilst in winter they descend to the protection of the higher ilex forests, which they share with wild boars and native herds of pigs which feed on the acorns. In the spring they are usually to be seen in broken valleys where currents of wind meet and are very difficult either to approach or to stalk in the high *macquia* scrub (*erica arborea*). They are seldom found in flocks of more than a dozen, and in the rutting season in November and December the males fight much amongst themselves, the crash of their horns being heard at a considerable distance. In May the female brings forth one or two kids, and, like all sheep and goats, they breed with the utmost regularity.

No European animal affords finer sport to the rifleman than the Sardinian moufflon, and the reader, if he is a true hunter, will do well to try and obtain specimens before the species becomes extinct or so rare that it is impossible to hunt it. Nearly all the Englishmen who have essayed the chase of this animal go in February and March, when the moufflon is most difficult to hunt. By far the best time is in the month of September, before the heavy October rains commence, when the little sheep are out on the open hills and are also less disturbed by the shepherds and domestic animals.

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Mr E. N. Buxton, who has successfully hunted these animals, of which he gives an excellent account in "Short Stalks," says:

"Though he lives on ground more or less steep, it is easy, and he has no occasion for any remarkable feats of agility. On the other hand, his best safeguard lies in the dense *macquia* which covers the hills. At this elevation it is exclusively composed of tall, 'bruyère' heather, from which the so-called 'briar-root' pipes are made. This grows from two to six feet high. If this covert were continuous, it would, of course, be impossible to see an animal which stands little over two feet, but much of it has been burnt, and there are natural openings beside. It is in these openings that he must be sought when feeding. As all wild sheep are constitutionally restless, and never remain long in one place, it will be understood how difficult it is, even when they have been spied, to hold them with the glass. They are constantly disappearing in the *macquia*, and have to be refound again and again before a stalk can be successfully effected. When they are alarmed or 'at gaze,' they have a habit, or at least the rams have, of placing themselves in the middle of a bush of *macquia*, or in the shadow which it casts. The ewes, who are naturally less conspicuous, do this in a less degree. The moufflon are also assisted by the wonderful alertness of their eyes. I do not think that they see at a great distance, but they detect an exceedingly slight sign at a moderate range. . . . When startled they whistle like a chamois, and as a Highland sheep occasionally does."

Mr S. H. Whitbread says that:

"When 'put away' they will make off at a great pace till they are out of sight behind some ridge or shoulder of the hill; they then immediately lie down in a place where they get the wind of the sportsman, who follows under the impression that they are still a long way ahead."

The native method of hunting moufflon both in Corsica and Sardinia is to drive the animals to well-known passes. This usually results in the moufflon being seen and females and young being killed, but the old rams are seldom killed in this way. There are, however, a few native Sardinians who now understand the use of the telescope and the art of stalking, and one of these can usually be obtained from Mr Meloni, of Lanusei, who will fit out the sportsman and give him the best advice as to the ground.

The moufflon will breed freely with various races of domestic sheep, the results of the cross usually being handsome animals of pronounced

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mouflon character. In the Island of Soay, near St Kilda, there is a race of sheep which probably owed their origin to such a cross. On this island there are about 80 to 100 sheep, which are perfectly wild, and even when transported to an English park they never become tame. Most of the males carry heads and pelage very like moufflon, but a few rather favour the small Hebridean sheep with which it is possible they may have been crossed at some remote period. The origin of these sheep is quite unknown.

In the Island of Cyprus there exist a small wild sheep which is doubtless a localized race of *ovis orientalis*. It is known as *ovis orientalis ophion*, and is the smallest of all the wild sheep, being only $26\frac{1}{2}$ inches at the shoulder. The general colour is a foxy-red, with a few whitish hairs on the flanks, which forms a faint saddle-mark. The other colours of the body are similar to *ovis orientalis*, but not so dark. The horns, 20 to 24 inches in length, curve backwards, with the points turning inwards. In shape they have a complete rounding off of the outer frontal angle, which was formerly considered to be a distinctive character in the Cyprian race, but which is now known to exist in the typical race on the mainland of Asia Minor. The Cyprian moufflon is found on the upper edges of the pine-clad Troodos mountains of Cyprus and only exists in small numbers. At the time of our occupation in 1878 only a small flock, numbering about twenty-five individuals, existed, but strict preservation soon increased their numbers. After a period when shooting was allowed, I think I am correct in saying that these animals are again protected.

J. G. MILLAIS.

THE BIG GAME OF SPAIN

DESPITE the cynical remark (attributed to Napoleon, I think) that Africa begins at the Pyrenees, Spain yet remains an integral part of Europe. The Straits of Gibraltar have proved a more enduring and impregnable barrier than any mountain range, whether the Pyrenees still survive or not. Hence the census of Spanish big game is essentially European—in other words, few in numbers as compared with the vast variety and teeming herds of the opposite continent, a considerable part of which lies stretched out in full perspective from many a dominating height in the South-Spanish sierras. From such lofty standpoints—say from Bermeja, above Estepona; or from the Picacho de la Veleta (11,597 ft.) in Sierra Nevada—the Mediterranean appears but as a narrow blue lake; Gibraltar an islet; while one's prospect across Africa is only limited by the snow-clad ranges of the Atlas, far away on the verge of the Great Sahara.

Well I remember the impression left on my youthful mind, decades ago, by this panorama of two continents in one *coup d'œil*. In those days Spain promised enough, and more than enough, to fulfil every personal aspiration. No dream that, in after days, I should wander afar into the heart of the then "Dark Continent" ever suggested itself even as a remote contingency.

Spain, though European, is essentially a country of big game—that is to say, big game of one sort or another is distributed fairly regularly over the whole superficies of the Peninsula. Few and far between are the inter-spaces in wild Spain where the traveller loses touch entirely, either of deer or boar, bear, ibex or chamois.

The mountainous character of the whole Iberian Peninsula favours the survival of the wilder animals. Spain—with the exception of a quite insignificant proportion of low-lying littoral—is an elevated tableland, 400 miles square, and averaging 1,000 to 2,000 feet in mean altitude. This again is surmounted by a series of vast mountain chains (all running east and west) some of which reach 8,000 to 10,000 feet in height: while the Sierra Nevada falls but little short of 12,000 feet above the Mediterranean lying beneath.

Such conditions are adverse to agriculture or settlement: vast regions lie abandoned to wild nature, while the loftier areas almost repel human intrusion save for a handful of goatherds during the summer months.

THE BIG GAME OF SPAIN

Taking Spain as a whole, the actual proportion of land under cultivation amounts to only 43 per cent, thus leaving considerably more than half in "God's own holding," or, at the most, utilized as wild pasturage.

The following list summarizes the *Caza Mayor*, or big game of Spain: to wit, (1) Red deer, (2) Roe, and (3) Fallow deer; (4) Ibex, and (5) Chamois; (6) Wild boar, and (7) Brown bear; (8) Wolf, and (9) Lynx—the last named being, by Spanish sporting ethics, accounted as *Caza Mayor* only when killed by a rifle-ball, a distinction which that feline shares with the fox. The latter, not being hunted in Spain (save only by the Calpe Hounds at Gibraltar), is regarded as a legitimate mark; in practice, however, it is rarely worth the risk of turning back a more valuable quarry to fire at a fox.

Other wild animals shall not here be passed over unnamed. In no sense are they "game"; yet none the less interesting for that reason, and, in some instances, even more difficult to secure. We refer to such creatures as genet and mongoose, wild-cat, marten, polecat, badger, otter, etc. These in Spanish are collectively denominated *Alimañas*, and form, perhaps, objects of interest rather to the naturalist than the sportsman—two characters which year by year are more rarely combined. To our own study and pursuit of these wary creatures we have devoted a special chapter in our work, "Unexplored Spain,"* and we must leave them at that.

One omission in the above category of Spanish big game may strike the reader as curious and inexplicable. We refer to wild sheep. That genus is well represented in neighbouring lands—in Morocco by the handsome and heavily-maned Aoudad or Barbary Sheep; in Corsica and Sardinia by the Moufflon. Yet the whole long intermediate coast-line of Spain—mostly mountainous and for hundreds of miles exactly adapted to ovine requirements—is sheepless. Nor are there extant records or traditions of wild sheep having ever occupied those sierras, at least within recent centuries.

The Spanish ibex, on the other hand, has, or had, a wide extension in the Peninsula, ranging from Pyrenees to Mediterranean.

To this splendid game-animal, the Spanish ibex, we allot place of honour in our list, not only because he represents the supreme prize in Spain to the cragman-hunter, but also by virtue of the species being peculiar to the

* *Unexplored Spain*, by Abel Chapman and Walter Buck, British Vice-Consul at Jerez. (London, 1910.)

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Peninsula. His specific distinction is no mere matter of minor modifications such as those upon which modern zoologists base multitudes of new races or local varieties—"sub-species" is the correct term. The ibex of Spain stands out clean cut and distinct from all his congeners the world over, as a lion differs from a leopard, or a grouse from a blackcock. A third reason—we may charitably be forgiven if we claim, even in most humble degree, to have originated that sentiment which—happily materializing at the eleventh hour—promises to rescue the Spanish ibex from impending extirpation and to preserve, not only to Spain, but to the world, a unique animal-form.

At the present moment the haunts of the Spanish ibex are restricted to some half-dozen widely isolated colonies, as under:

(1) THE PYRENEES.—In this, their earliest and best-known habitat, it is quite uncertain whether any ibex survive to-day or not. A few, it is possible, may yet roam the crags of Monte Perdido (10,994 ft.), quite probably the last Pyrenæan ibex has already been done to death—as is certainly the case throughout the Cantabrian hills and also, probably, in the Serra do Gerez in Portugal.

(2) SIERRA DE GRÉDOS, Castile.—As this resort is more particularly described below, it is only necessary to say here that the ibex, after being shot down to fifteen head in 1905, are now rapidly increasing under the ægis of Royal protection.

(3) SIERRA MORÉNA.—Although this huge mountain system covers an area as big as all England south of the Thames, yet its subrounded, jungle-clad ranges lack the naked rocks and precipices beloved of ibex, save only in one limited spot near Fuencaliente. There a colony of ibex, happily under private protection, is increasing satisfactorily. This habitat the wild goats share with superb red deer (the best heads exceeding 40 inches), and both animals may be shot in a single day, a feat impossible elsewhere on earth! The photo (marked "A") shows a Moréna ibex head measuring 28 inches, with basal circumference of $8\frac{1}{4}$ inches.

(4) SERRANIA DE RONDA.—Along the whole mountainous Mediterranean front of Andalucía ibex are distributed sporadically and in greater or less numbers according to the protection afforded them. On certain hills, (such as San Cristobal) they have been totally exterminated within recent years; on others a sorely-harassed remnant survives. Fortunately, here again the new impulse is now manifesting itself in the protection of several sierras—details of which are given in "Unexplored Spain," p. 305.



Photo lent by]

[Abel Chapman.

SPANISH IBEX, from Sierra Moréna.
Length 28 inches: Circumference at base $8\frac{1}{4}$ inches.

A.

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(5) SIERRA NEVADA.*—This includes the loftiest of all the Spanish peaks—Mulhacen, 11,781 ft.; Picacho de la Veleta, 11,597 ft.; Alcazába, 11,356 ft.; with others of scarcely inferior elevation. Here, protected only by their celestial altitude and by the vast extent of their rugged and snow-clad stronghold, the ibex, till a year or two ago, appeared to be almost holding their own—few in numbers, but including some magnificent heads.

So long as local hunters were restricted to their old smooth-bore guns, the contest was fairly equal, and the game had a sporting chance. During the summer of 1910, however, that curse of modern days, the cheap repeating "Mauser," appeared in the hands of one or two of the goatherds of Nevada. That (precisely as happened with the reindeer in Norway in 1894) imports nothing less than absolute extermination, and within brief space, unless prompt measures are taken to avert this disaster and disgrace. Once more, for details of what is happening in Nevada, we must refer readers to "Unexplored Spain," pp. 303-4.

(6) SIERRA MARTÉS, Valencia.

(7) TORTOSA, Catalonia, near mouth of River Ebro (cf. "Unexplored Spain," p. 142; also Dr Angel Cabrera's article in the "Proceedings of the Zoological Society," 1911, p. 967). We have no personal knowledge of either of these two last-named sierras.

Except in those regions where, as specified, ibex are protected by land-owners, the dwindling remnants of their race are everywhere shot down without regard to season, size, or sex by the local goatherds. These mountaineers, born hunters, agile and sure-footed as the goats themselves, during summer pasture their flocks to the topmost summits, each man carrying the ready gun on its sling. Nothing but the wariness of the game and the vast area of its scarce accessible strongholds enables even a remnant to survive.

It will be obvious from the above that, except by favour, or as guest of some great Spanish landowner, the big game hunter of to-day has no chance of adding the unique trophy of *Capra hispanica*† to his collection.

* Contiguous with and practically an extension of the last named.

† Under the principle of "Priority in nomenclature," the correct scientific title of the Spanish ibex would be *Capra pyrenaica*. But a rigid adherence to such a rule involves the absurdity of perpetuating errors and endorsing misconceptions by earlier naturalists which are now recognized as mistakes. Thus the name "*Pyrenaica*" was originally assigned under an impression that the ibex of Spain were confined to the Pyrenees, which is not the case. Nowadays, when its range is proved to include nearly all Spain, the erroneous title must be dropped, or we reach the further anomaly of such names as *Capra pyrenaica hispanica*, by which the less is made to include the greater—a proposition which, as Euclid demonstrates, is impossible. Common sense dictates the correction of primitive misconception and the assignment to the Spanish ibex of its natural title—*Capra hispanica*. To that may be affixed such sub-specific titles as *C. h. pyrenaica*, *Victoria*, etc., as may be thought desirable.

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In all cases ibex are strictly nocturnal, rarely seen amove by day;* but a diversity of habit is observable as between those of the lofty rock-regions and those of the lower, scrub-clad ranges. In the former, as in Grédos, Quintana, and formerly in the Pyrenees, the ibex at dawn betake themselves to caves or overhung shelves in the face of sheer precipices, where they lie inaccessible and refuse to be dislodged even by a rifle-ball. On the Mediterranean ranges, where no such aerial sanctuaries are available, the ibex lie up by day among the tangle of brushwood, forming regular "lair." Hence their native name of *Cabra Montés* (pronounced "montess") or "Scrub-goat." Here the native method of shooting them is by driving—a general turn-out of the whole scant population, each man armed. This is termed a *monteria*, and the death of some ewe or halfgrown kid is esteemed success.

Formerly expert hunters followed an early-morning spoor with leashed hound—a sporting method. Some of these men enjoyed great local repute—and no less their hounds—both in still-hunting and in driving with a loose hound (unattended). Nowadays the game is too scarce for these systems.

On the loftier rock-ranges, were the ibex adequately protected, these great Spanish cordilleras would yield a class of sport absolutely unique, and trophies not to be had elsewhere on this planet.

However numerous the game may become, ibex-stalking at these tremendous altitudes will ever demand the extreme of laborious work. None save the young and vigorous—and possessed of some cragsmanship at that—need dream of success.

The following narrative by the Marquis de Viana, *Montero Mayor* to H.M. King Alfonso XIII, was written for our book, "Unexplored Spain," but reached us too late for insertion therein. It gives a clear insight into the recent history of the ibex in Sierra de Grédos, since 1905, when, by the spontaneous action of the landowners, the rights of chase were ceded exclusively to the King, and Grédos became a Royal preserve. Our own experiences in Grédos, long prior to the date named, showed that by the end of last century the ibex, which twenty years earlier had been fairly numerous, were reduced to some fifty head. By 1905 they had reached a point perilously near total extinction. In eight short years their recovery has been marvellous.

*Possibly, to some extent, this preference for nocturnal habit may be accentuated by the constant persecution to which the Spanish ibex are everywhere subjected.

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The Marquis writes: "His Majesty having accepted with enthusiasm the proffered guardianship of the Spanish wild goats, persevered in his determination to preserve and restore their threatened race. During the six subsequent years the Royal Treasury bore all expense both of protection and of 'trial drives,' carried out solely to ascertain their numbers and the increase in the game.

"After these six years of Jubilee, His Majesty directed his *Montéro Mayor** to pay a visit of inspection. This the writer, accompanied by the Marquis de Villaviciosa de Asturias (who first initiated the scheme), carried out early in July, 1910, the details being transcribed from his diary:

"July 1.—Leaving Madrid by automobile at 5.30, we lunched at Talavera, and at dusk encamped at Majada Somera, altitude 7,000 ft. Snow lay on all sides, and the temperature by night fell to 5 deg. below zero.

"July 2.—Called at dawn, after a long march over snowfields, we reached by noon the Altos de Morezón, on the highest ridges of Grédos. Hence an ibex female was espied, about 600 yards distant, in the depths of a gorge. It was lying in the sun, and so closely did its colours harmonize with the rocks that it took me half an hour to distinguish with the spyglass. The guards assured me that this solitary female was sure to be acting as sentry to other ibex in a broken ravine beyond, and that presently proved to be the case.

"Since the ibex is equally gifted both with sight and scent, it was decided that I, with the keepers, should make a long backward detour. Two and a half hours it took us to gain the desired point, having frequently to use our belts (in default of ropes) to descend vertical rock-walls and abysses. And, after all this labour, the ibex had gone!

"Presently the guard detected three more, near the base of some towering crags. To reach these, we removed our boots and crossed a huge sloping snowfield. Once more the ibex had gone! We saw, however, others at various points beyond: but unluckily there were also several in the gorge beneath, which prevented an attempt to approach from that side.

"During our retirement from this point we observed a band of ten, all big rams, but one of them colossal. He was of a bright cinnamon colour (*color de canela*), his legs covered with long black hair, giving

* *Montero Mayor* = Master of the Hunt—by analogy, perhaps, "Master of the Buckhounds" might be the nearest English equivalent.

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an appearance of trousers. In autumn, it is said, the old rams all assume that pelage. The troop was advancing slowly but directly towards us, peering round them on every side, and halting at intervals. A big ram led, but the biggest kept in the centre. In passing us, however, they strung out in file, and V. tried a long shot at the champion, but missed.

“At 3 p.m. we ascended Las Hoyuelas, and from those heights observed seven females quietly feeding—again most difficult to distinguish by reason of their colour. At eight o’clock the guards spied two good rams beginning to feed, but too late to attempt approach.

“July 3.—To-day we tried a drive. Four and a half hours’ climbing brought us to the “passes” through the Cabeza Nevada, 7,500 ft. Here, although we lay ambushed in the most favoured passes, no ibex came our way. All day we enjoyed the sight of various troops of wild goats: but none would enter the pass, and during the afternoon all broke back through the line of beaters—including a band of thirty rams. That night, being unable to regain our camp before dark, we spent in the Covacho de los Pinarejos—a natural cave better suited for an eagle’s eyrie than a human abode.

“July 4.—Set out in search of the thirty rams seen yesterday, but failed to find a sign of them in the region we had been led to expect would hold them. Eleven hours’ work we put in to-day, ascending snowfields and crossing the culminating ridges of Grédos—the panorama from the apex imposing beyond words—but no tangible result rewarded our labours. Our camp, moreover, we found badly placed, exposed to the wind and driving snow. This, however, was due to the site originally selected being filled up by the exceptional snowfall of this year.

“At these altitudes there is absolutely no vegetation, nothing but a jumble of rocks, crags and snow. In the Laguna de Grédos itself there grows a sort of water-grass with strong garlic-like smell, locally called *porrino*, and this the ibex greedily devour.

“July 5.—We set forth on our last day’s effort, a trifle dispirited by our failure to accomplish our chief ambition—that of shooting an ibex ram. Two and a half hours it cost us to climb out to the pass of Las Hoyuelas, facing the Plaza de Almanzór (8,700 ft.).

“Stalking we had abandoned as hopeless: our last hope of achieving our object we rested on a drive. Since dawn twenty or thirty men had

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been engaged encircling the vast amphitheatre of rocks and snow known as the Circo de Grédos. Now at noon those immense solitudes resound with their distant cries and the reports of their old-world guns.

“The ibex have four or five distinct “passes” by which they can traverse Las Hoyuelas; but by good luck it befel that two troops selected that in which we lay hid. The first consisted of five rams, and of these I killed the foremost and biggest; the second of about fifteen, from which V. shot another good ram. Such was the precipitous nature of the pass that nothing short of the rock-climbing skill of Isidoro Blazquez, the head guard, would ever have recovered our dead ibex from the abysmal depths into which they had fallen—the second, indeed, was not recovered that night. Thus ended our expedition.

“I can assert without hesitation that during these four days we saw fully three hundred ibex. Further, I may record that in 1905, when His Majesty the King took the charge of the ibex upon himself, there then only survived some fifteen head, of which five were males (four small, one big). To that exiguous extremity had this splendid species been reduced!”

A Royal “drive” was organized shortly afterwards, the outstanding feature of which was that, among other fine trophies, the record head of a Spanish ibex from the Sierra de Grédos was shot by King Alfonso, the horns taping over 32 inches, with a basal circumference of nearly 9 inches. Our own best heads measure:—from Grédos (as shown in photo) $30\frac{1}{2}$ inches, and from Sierra Nevada $29\frac{1}{4}$ inches.

The following summary, descriptive of this first Royal *monteria* in Grédos, we extract from a Spanish newspaper:

“Singly and laboriously the sportsmen climb out to their allotted posts situate far apart amidst those terrific precipices that enshroud the Plaza de Almanzór. Truly this sport is for the brave, for men whom no terrors can deter.

“The first day yielded no other result than a right-and-left shot by H.M. The King—the first and only one on record. No one, at least, has ever claimed such a unique feat. One of these two ibex proved a magnificent old ram, the best, it is believed, ever obtained in Grédos.

“The second day’s operations covered all that vast and chaotic extension of crags known as the Riscos del Francés and del Fraile. It

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resulted in a total blank. Despite the skill and tireless efforts of the mountaineers, the task of forcing the wild-goats through the selected passes proved beyond their powers.

"The third and last day brought brilliant compensation. The drive lay from the gorge of Las Cinco Lagunas towards the rugged mountain-mass called the Ameál de San Pablo. The guns, placed in the passes of the intervening sky-line, secured seven ibex rams during the day: while the biggest old male in all the sierra, after receiving three rifle-balls, escaped in the darkness, but was found dead the following morning."

At the moment of writing we believe the ibex of Grédos to outnumber 400 head—a truly striking increase upon the *fifteen* survivors of eight short years ago.

Such a result may well encourage other Spanish landowners to extend protection to the ibex on their properties. Regarded merely as a monetary matter, it would assuredly "pay": though that is not a consideration of the slightest weight with the grandees of Spain. In Norway the point was recognized—as regards reindeer—but only at the eleventh hour (in 1895)—and the reindeer is not restricted to Norway as *Capra hispanica* is to Spain. A very few decades hence a Spanish sierra (otherwise almost valueless) might command as long a rent as a crack Scottish deer-forest.

THE CHAMOIS, called in Spanish *Rebeco*, ranges from the Pyrenees westward along the whole Cantabrian range overlooking Biscay, but is not found either in the central or South-Spanish cordilleras—nowhere, in fact, beyond sight of the Biscayan Sea. There its main stronghold has always been in that congeries of stupendous rock pinnacles known as the Picos de Europa, some of which exceed 10,000 ft. in altitude. Here, however, the chamois has recently passed under the ægis of Royal protection, exclusive rights of chase in the Picos having been spontaneously ceded by the owners to their monarch—exactly as happened with the ibex in Grédos. Hence these chamois, which are thousands strong, cease to interest the foreign hunter.

The native method of shooting is confined exclusively to big mountain drives, termed *Monterias*. Chamois could unquestionably be secured by stalking—that fact has been demonstrated by Mr E. N. Buxton, whose description of chamois-stalking in the Pyrenees should be read by all who love that craft ("Short Stalks," 1893, chap. xi). The stalker, however, must be an Alpinist and craftsman of trained skill, and tough as steel at

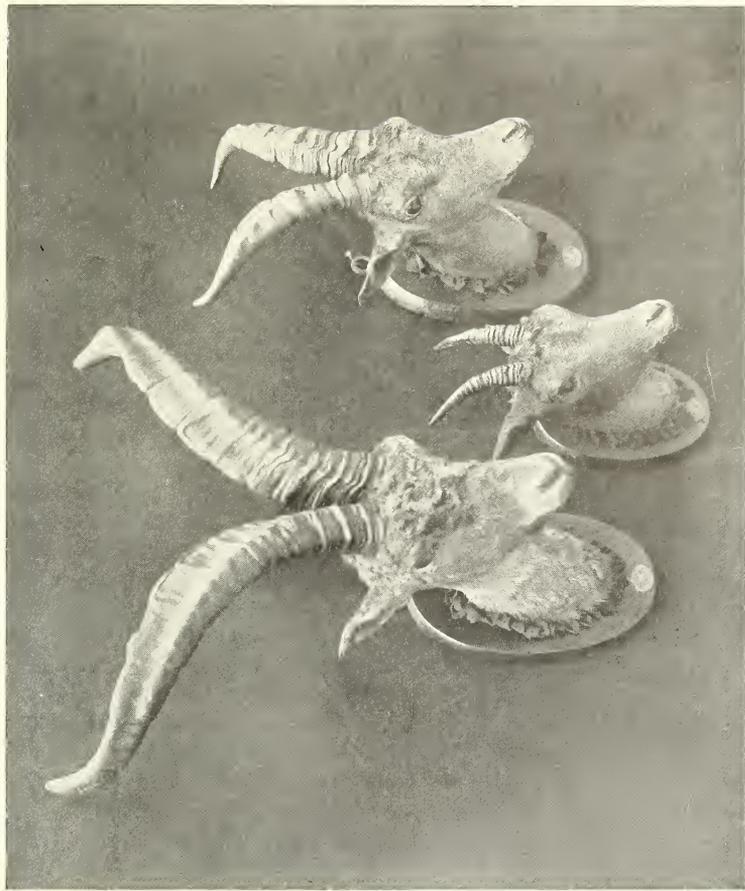


Photo by J

Hillout & Fry, Ltd

SPANISH IBEX, from Gredos.

Length of large horns 30½ inches.

PLATE LXXXI.

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that. The present writer has no sort of compunction in admitting that such work was ever beyond his powers. The nature of the terrain frequented both by ibex and chamois (unless previously realized by the reader) can never adequately be described in any written words of mine.

As a trophy, the chamois is a far more easily-won prize than an ibex. Not only is it tenfold more abundant, but, being of diurnal habit, the chamois may be seen feeding in broad daylight, often in large herds. These animals never enter caves or crevices in the crags, as ibex habitually do by day, nor is there a vestige of scrub or covert in these regions of rock and snow where the chamois live above the clouds.

The very abundance of the game is a factor adverse to the stalker. For such is the terribly broken and interrupted nature of the ground that one's view is always restricted; hence there is a constant danger, while stalking chamois which have been espied at a distance, of "jumping" others previously unseen though much nearer. Driving is the method usually adopted in Spain. Few beaters comparatively are required, while the best positions for flankers and stops are clearly indicated by the natural configuration of the crests and ridges.

In September, 1912, a Royal *monteria* was carried out in the Picos de Europa. On the first day, with eight guns in the firing-line, and three others "skirmishing," so to speak, behind, no less than four hundred chamois were driven past the guns, and of these eighty-one were killed. It was recorded that during lunch a single chamois was seen skipping along the beetling crags far overhead, whereupon King Alfonso, dropping knife and fork, seized his rifle and brought off a brilliant shot.

A second day's drive on the Peña Vieja was almost equally successful though the numbers of chamois actually recovered were less.

The chamois of Cantabria are a smaller race and ruddier in colour than those of the Pyrenees, their horns averaging between seven and eight inches. Our best Spanish chamois head measures $8\frac{1}{2}$ inches, Sir Victor Brooke's best from the Pyrenees being 9 inches. When newly killed, their eyes gleam with a strange emerald-green light.

RED DEER.—The range of the Spanish red deer is restricted to the southern half of the Peninsula—that is, roughly speaking, southwards of a line drawn horizontally through Madrid. The Cantabrian regions, though apparently well suited to their requirements, hold none; nor, for some obscure reason, are red deer found in the Sierra Nevada.

The great Sierra Moréna, with its northern extension, the Montes de

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Toledo, forms a main stronghold of the Spanish red deer, and herein the stags attain a magnificent development of horn, rarely surpassed in Europe, many heads measuring over 40 inches in length. Practically the whole of these vast mountain ranges are preserved by the various land-owners. Only amidst the intricate wilds of northern Estremadura can red deer be found on unreserved ground. Here, on unknown and abandoned hills, the stags, though few in numbers, carry good heads unharmed by a primitive or degraded peasantry strangely oblivious of the hunters' craft. Here, too, the far-venturing sportsman would find wild boars and wolves—both, in certain ranges, numerous enough.

Apart from the sierras, red deer are also occasionally found inhabiting lowland forests, the Coto Doñana being the best known of such resorts. That famous hunting-ground (leased for many years by the present writer together with Mr Walter Buck and other friends) lies at the mouth of the Guadalquivir, forming a sort of delta to that great river. Its seaward extremity is covered with forests of stone-pine, while inland there stretch away continuous jungles of brushwood diversified by scattered clumps of cork-oak and ilex. Between is interposed a central region of desert sand-dunes inset with belts and strips of pine. Red deer, along with wild boar, lynx and other animals, abound in all three classes of country. The deer of Doñana, however, belong to a distinctly smaller race than those of the sierras, average "Royal" heads measuring only 24 to 26 inches, while antlers approaching 30 inches are quite exceptional. Weights (clean) here rarely exceed 200 lb., whereas the best mountain stags reach 300 lb.

Deer-stalking is not practised in Spain, "driving" being the system universally adopted with all big game. This fact, on first sight, may prejudice outside opinion against Spanish sportsmanship. Such prejudice would be entirely unjustified. The nature of each country must dictate its own appropriate method. We British prefer stalking or still-hunting largely because in most of the hunting-fields affected by our race those methods represent the most effective and, in some cases, the only course available. Such are the deer-forests of Scotland, the highlands of Norway, of the Caucasus, or of India, the Himalayas and Rockies, together with a big proportion of the whole vast veld of Africa. The barer the ground, the greater the advantage to the stalker. On naked hill or open plain animals can be descried miles away. A stag lying up in heather can be "spied"—if only by the tip of a horn—though the heather be two feet high. But in Spain, heather (*Erica arborea*) grows to six or eight feet; while a tangled

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jungle of other shrubs, taller still, clothes unbroken leagues whether on mountain slope or rolling plain. Under such conditions game cannot be seen at all, and the stalker finds himself deprived of the first essential of his craft—the distant view.

There subsists, moreover, in the ethics of Spanish fieldcraft an underlying sentiment that is alike creditable and characteristic of national chivalry—an unspoken repugnance to the standing shot, which is the culmination of each successful stalk. *Audi alteram partem* is a sound maxim, and here is an illustration in point. In Spain deer can be stalked during the half-hour of breaking day—what time they return from nocturnal pasturage to the coverts wherein they pass the day—"intercepted" would perhaps be a more correct definition. The method is looked upon with disfavour: yet it appealed to me not merely by reason of the sporting chances afforded, but because its practise introduced one into the inner life of various wild animals, other than deer, rarely to be seen save at that witching hour of dawn. On one such morning, after a stalk replete with incident, I had laid low a broad-beamed eleven-pointer; but self-congratulation was cut short by the soliloquy of my companion: "That's the first stag I ever saw shot with his head down!" There is generosity in the idea that an animal should only be shot when thoroughly warned of impending danger and bounding away in full flight.

The following note by my friend Señor Don Patricio Garvey, Marquis de Pesco, is so pertinent that I venture to quote it:

"Spanish hunting is a thing to itself in these days, savouring more of the Middle Ages than of to-day, and this is, perhaps, not surprising in a country of great landowners still holding vast estates as in feudal times. It should, however, be noted that, although the Spanish peasantry may be poor, yet they are very far from being downtrodden, and all display the characteristics of a virile and independent race. Nowhere are the relations between rich and poor more pleasant and mutually self-respecting; while for the foreigner these country-folk have nothing but friendship and courtesy.

"Spanish big-game hunting may be said to partake of the nature of both the widely different sports known to us as 'hunting' and 'shooting.' It is practically a drive in which huntsmen and hounds aid the beaters."

Many deer-drives, especially in the Sierra Moréna, are organized on a big scale, and give an interesting insight into rural life in wilder Spain.

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Some great landowner assembles a party of ten or twelve guns for the function. He has himself his own pack of hounds; but possibly two or three of the bidden guests will bring their packs—each with full kennel staff—to supplement that of the host. So extensive are these mountain beats that each drive occupies a whole day; the different huntsmen, each with his pack and the requisite number of beaters in addition, starting before dawn in order to reach their assigned positions—possibly a dozen miles away—across devious hill-tracks. The guns also may have considerable distances to traverse. They leave the lodge in time to reach their posts at an hour fixed beforehand—usually about 11 a.m.—when the various packs (each separate and acting independently) are cast off. Headstrong by nature as are these Spanish hounds (*Podencos*), they are held well in hand, being trained to return to the call of the hunting-horn after each animal (stag or boar) has been started and seen to take the desired direction—that is, towards the guns. Each “find” is notified to the far-distant line of guns by blank shots fired in the air. At first, of course, these distant signals are almost beyond ear-reach; but on occasion, when the firing-line occupies some commanding ridge of the sierra, an entrancing view of the whole strategic operation (with opportunity also of observing the wiles of the hunted stag) unfolds itself before the gunner’s eye. Each pack of hounds holds its appointed line, the intervals secured by beaters, mounted or afoot. Hours pass in rapt attention. There occurs not one uninteresting moment till that crucial epoch when the rattle of hoof upon rock and a crash of brushwood conveys instant warning, and maybe a glorious stag with 40-inch antlers, or a great grizzly boar dashes across the narrow ride.

To me, the appearance in life of these bigger mountain-stags, with their huge superstructure and bunching “tops,” often conveyed a sense of actual disproportion as between body and horn.

On these occasions there is, moreover, ever present the contingency of encountering lynx and wolf. The latter, of all the beasts of the field, is the most astute, and rare are the occasions when he fails to detect danger ahead and finds himself ambushed. That such fate may befall him at times the annexed photo of a grand wolf-head, shot in Moréna, serves to prove.

In the sierras the difficulties of marksmanship vary considerably. Many shots must be taken with hurried aim at game bouncing in full career through some rugged and broken “pass,” with a baying hound in pursuit and one’s view intercepted by obstructive rocks or brushwood. On the other hand, an element favourable to the gunner lies in the circumstance



Photo by]

[Elliott & Fry, Ltd.

SPANISH WOLF, from Sierra Moréna.

PLATE LXXXII.

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that, in the mountains, it is as a rule permissible to fire in any direction—that is, game may be shot in front of the post or at any point around it. The guns being widely separated—each in some hollowed “neck” or pass—and protected by intervening ridges or escarpments, such shots involve no risk or danger. When the approach of an animal has been detected before it appears in view, an easier mark at game still unconscious of immediate danger may result. But retreating deer usually approach with extreme stealth and silence, intensely alert and ever suspecting danger ahead. Hence the slightest movement of the gunner—say the preparation to fire—will instantly be detected, and at one huge bound the stag will disappear whence he came.

Amidst the forests of the lowlands the reverse of all this is the case. There, on ground more or less level, considerations of safety imperatively forbid all firing forward—that is, into the beat—or at game passing full broadside, until long after it has gone well through the line of guns. The necessity of this is self-evident; so, too, is the increased difficulty of the shot—superadded being the risk that the game may already have got a “touch of the wind” ere it reaches the firing-point. In the Coto Doñana, for example, each gun, when allotted his post, has his “firing-lines” distinctly marked out for him by the keeper in charge of the beat. Until game has passed beyond these lines, no shot is permitted, and no “discretion” whatever is allowed.

We conclude our note on Spanish red deer with the following table, giving comparative measurements of the twelve best heads we can personally vouch for—six from the sierras, six from Coto Doñana. The marked difference in their respective sizes demonstrates how much finer a race are the mountain deer.

SPANISH RED DEER HEADS

FROM SIERRA MORÉNA.			FROM COTO DOÑANA.		
Length on Curve.	Widest Span (Tips).	Points.	Length on Curve.	Widest Span (Tips).	Points.
43	35	12	32½	30	13
41	36½	—	31	32½	10
40½	40½	16	31	28	15
40½	—	14	30½	27	10
40	36½	17	30½	20	14
38½	33½	16	29½	31½	13
			29½	39½	10

THE GUN AT HOME AND ABROAD

For readers who may not be intimate with the precise value of such data, we are tempted to quote the following from "Short Stalks," p. 225. Referring to a superb stag of $43\frac{1}{2}$ inches shot in Asia Minor, Mr Buxton writes: "No such stag as this, to the best of my knowledge, has been seen in Western Europe, at least for many generations." Spain, however, as shown above, approaches it very closely.

ROE DEER, known as *Corzo*, are found in wooded and scrub-clad hills throughout Spain. There is, however, no special feature in the Spanish animal or in its chase that calls for specific remark. A pair of good Spanish roe-buck heads measure:

	Length.	Circumference.	Tip to Tip.
No. 1	$9\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$ inches.
No. 2	$9\frac{1}{4}$	$4\frac{1}{8}$	3 inches.

FALLOW DEER, in Spanish *Gamo*.—Amidst the wild waste of hills that cover all northern Estremadura, and in the wooded glens that dip down towards the Tagus, fallow deer are indigenous. In the province of Caceres they occur especially at Las Corchuelas and Valero, and also in the Montes de Toledo. These purely wild fallow are heavier and handsomer than those of parks and preserves. The latter type is abundant enough, especially in the Royal *Patrimonios* near Madrid and elsewhere. Being partially unenclosed, these deer have strayed and spread themselves over the country around; but the truly wild race only occurs as above defined. Presumably it belongs to a distinct "sub-species."

WILD BOAR (*Javato*).—There is nothing to differentiate the pursuit of this animal in Spain from that in vogue elsewhere—at least, as regards the gun. Being nocturnal in habit and frequenting only the denser jungle, it follows that "driving" is the only means of presenting the boar as a mark for the rifle. So continuous are these thickets, devoid of interspersed opens, that "pig-sticking" on Anglo-Indian lines is impracticable. But the Spanish are born horsemen, and many of their dashing riders—from King Alfonso downwards—are wont to kill boar with the lance (*garrocha*). The help of dogs as auxiliaries is, however, essential, since otherwise the course of the flying game amidst saddle-high scrub of cistus, genista, giant heather, and all the varied shrubbery of the South could not be followed. The man who, in Spanish jungle, can spear a pig, even with the aid of hounds, could probably kill him anywhere.

THE BROWN BEAR is nowhere numerous, but has his main stronghold among the Asturian mountains, spreading thence eastward to the

THE BIG GAME OF SPAIN

Pyrenees. The Spanish name is *Oso*, and two races are recognized by the natives—the big cattle-raiding bear entitled *Oso carnicero*, and the smaller *Oso hormiguero* or “ant-eater.” The wandering hunter has but the faintest chance of meeting with the bear in his Biscayan home. The only means that promises even an exiguous degree of hope is by “driving,” and that, in this huge mountainous land, must be organized on a big scale. The venture is certainly not worth undertaking unless a bear has already been located—if not actually spooed to the particular hill or ravine in which he is then lying up for the day. The best season for this is in autumn, when bears are wont to descend from the higher mountain-forests in order to raid the ripening crops of maize in the valleys. Under such favouring circumstance, from twenty to thirty bears are annually shot by resident landowners in the Asturias.

ABEL CHAPMAN.

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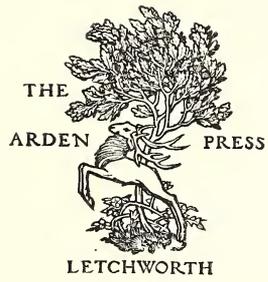
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