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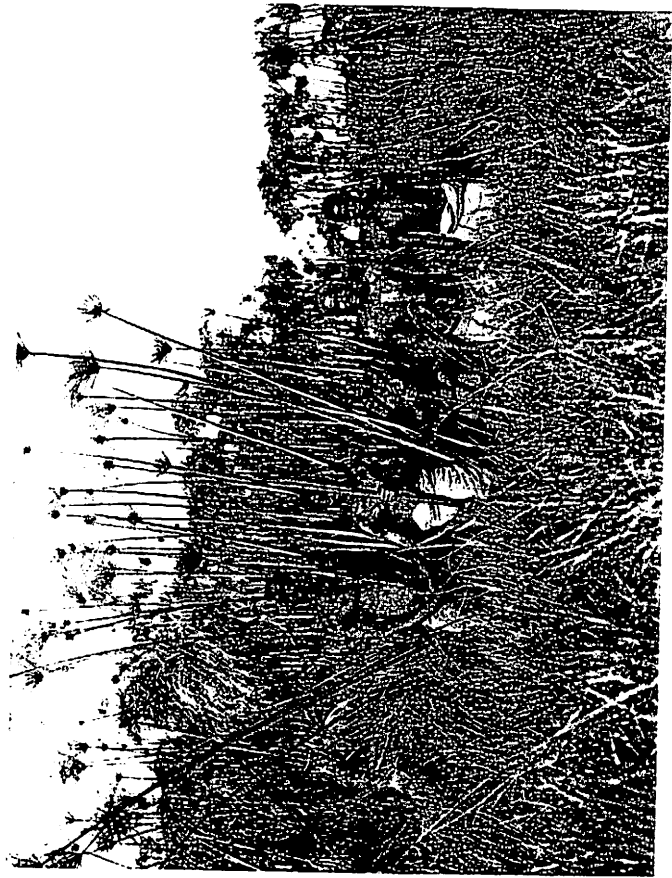
EIGHTEEN YEARS ON LAKE BANGWEULU

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With an Introduction by
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A SITUTUNGA DRIVE—SOME OF THE BEATERS

Frontispiece

are approaching him at last, the pleasure of anticipation is intense. Hunger, thirst, fatigue are forgotten trifles. The thrill which the first sight of him gives one, and which lasts till he is lying on the ground, is not to be equalled in any other form of sport, whilst his valuable tusks, together with meat for the followers, are well worth winning.

My experiences with elephant began in 1901 down in the Luangwa Valley. This is a hot, low-lying country to the east of the big Bangweulu Basin on the other side of the Congo-Zambesi Watershed, or better described as lying at the foot of the plateau on which Lake Bangweulu is situated. The fall of the plateau into this valley is a sheer drop of 3,000 feet in one unbroken descent, and can only be negotiated in certain places.

In the latter part of the year the temperature in the valley rises to 112° in the shade, making one long for the cool breezes of the summit of this huge mountain wall, which is known as the Mchinga or the Muchinga, according to the dialect.

At the time I was alone in charge of Nawalia, a one-man sub-station, the only one in the Nawalia district—the most northerly district of the Luangwa Valley, with an area easily twice the size of Yorkshire, in which I was the only European resident.

Finding my first hot season there rather trying, I took a trip to the top of the Mchingas to cool down. We—that is, myself, my servants and carriers—reached the top on the fifth day out from Nawalia, climbing up at Chitala's Pass, where the Arab slave and ivory caravans used to pass up and down. The sudden change of temperature brought on an attack of malaria.

In exploring the top I found the Mpamadzi River, which makes its way down a beautiful gorge to the valley below. Elephant spoor was very plain in the moist ground. My two trackers (Achikunda) explained to me that at this time of the year—December—the elephants come up out of the valley by the Mpamadzi Gorge to feed on the sweet Musuku fruits, of which there were any quantity.

The plateau in this part is well wooded, a large proportion of the trees being these same Masuku, under which short grass grows, partly covered by the fallen leaves and fruit. I tried the fruit and found it very good.

The two previously mentioned Achikunda trackers I had with me (Namungomba and Kamtaru) I discovered one day at Chitala's village at the foot of the mountain on the Mpamadzi River. They came originally from the lower Zambezi in Portuguese East Africa, and are expert trackers and hunters.

The Achikunda ivory hunters came up here for centuries with muzzle loaders traded from the Portuguese in Tete on the Zambezi, and when this was stopped by Rhodes's emissaries, many remained, as they had married local Wawisa women and settled.

Namungomba, who had been busy reading the signs like a book, told me that the elephants had recently gone back again to the valley and that they travelled by a path of their own which went down the Mpamadzi

Gorge. This way sounded much more interesting than the way we had just scrambled up, so we decided for it on the morrow.

The only thing I bagged that day, viz., December 25th, 1902, was a bush or Red River hog found feeding on the Masuku. It is a handsome, shapely beast for a pig, covered with long dark red hair, with a white mane. I gave Namungomba and Kamtaru a leg to themselves, as they had brought no food with them from their village down below—there are no villages on the plateau within a day's journey of the edge.

They kept aloof from my Wawisa and made themselves at home by my camp fire. Having had my own dinner I sat watching them across the fire. Namungomba held the skinned leg of pork in one hand—he is a very powerful man—and with a spear in the other hand skilfully cut all the meat off in one long, narrow strip, like peeling an apple. I thought he was going to dry it into biltong, but he cut it all up into short pieces into a big native pot, which was all they had brought with them, except a spear each, then filled up the pot with water from one of the other men's gourds and set it on the fire. In about an hour, when the meat was well cooked, having been stirred occasionally with a spear, they let it cool a bit, then took turns at drinking out all the soup, finally eating every scrap of the meat. Then, with satisfied regurgitations, they turned over and went to sleep by the fire. A barbarous feast, but somehow it made me feel hungry to watch them.

At daybreak next morning we were off down the elephant track, myself and the trackers in front. The trail at first took us to the Mwombozi stream, a tributary from the south, which led us to the Mpamadzi itself about half-way down the Mchingas. The wind was right for seeing any game there might be, as the trade wind from the east was blowing up the gorge.

I now saw for the first time what good engineers the elephants are and was astonished; this track followed the contours of the ridges in the most skilful way, looking as if it had been trodden from time immemorial.

In the afternoon, when we had wound along for about fifteen miles, we met a couple of rhino coming towards us along the path. I killed the larger with a single bullet from a .303 (rhino are very easy to kill in my experience) and decided to leave the men to fix up camp on the spot, so that they could cut up the meat and enjoy themselves.

I went on with the trackers to explore the path farther; it is tedious sitting in camp while the tent is being put up and things got ready. The other rhino had turned tail, bolting down the track. I soon made him out, winding along below us, apparently in no great hurry, then leaving the path he wound along the right-hand side of the gorge, afterwards plunging to the left towards the river bed some 200 feet below. It was wonderful to watch how easily this great beast made its way down the rocky, precipitous slope, till it disappeared into the narrow belt of thick bamboo jungle along the river.

at the core, being hollow throughout, and therefore of no use for cutting out a canoe. Knowing Mr. M. and his friends as I do, I came to the conclusion that hard work in the heart of the forests, with an atmosphere of man-eating lions about, was not to their taste.

Previous to 1900, Mr. Owen Stroud was sent up from Fort Jameson to erect the Livingstone Memorial, along with a few native artisans to assist him. The bricks, of which it is entirely constructed, were made on the spot, burnt to a good degree of hardness, and of a whitish-yellow colour, as shown by the numerous bricks and fragments left over.

My photograph, reproduced herewith, shows only three iron telegraph poles as railings round the memorial. Stroud was given four for this purpose, but found it necessary to incorporate one of them to reinforce the neck of the cross which crowns the monument. I have heard that photographs of the memorial sent home to the *Field* (August 9th, 1913) immediately after its erection show the railing complete on all four sides.

My account is correct. I have seen Mr. Owen Stroud since, and he tells me that only having the three rails available, he put in an imitation rail made of wood, which, of course, would not survive long in this climate of termites and borers, which soon destroy any wood that has not been previously seasoned. The nearest that the natives could get to Stroud's name was "Bwana Matrousa."

Soon after I was transferred from the Luangwa Valley to join Mr. Croad, who was living in solitude as Native Commissioner at Serenje, the Government post in the Ilala country. I was deputed by him to go up north to clear and level the ground round the memorial, which at that time was under the care of the Native Commissioner. He gave me a box of tiny cypress seedlings. Only a few of the seedlings survived the journey owing to an accident. Travelling by night, my whole Safari was stampeded by a rhinoceros, when every carrier promptly threw down his load to scramble up a tree. The cypress trees seem to have done very well. When I last saw Stroud he asked me if I had seen anything of any other seedlings he had planted there. I had seen them just as I was going away—they were close to the village and, not having been thinned out, were overgrown, weedy and lanky. They were wattles and gum-trees.

There is no need, however, for any more trees to be planted at this place. The forest itself in which it stands is full of splendid indigenous evergreen trees, than which nothing could be more suitable, and around the little clearing there is a magnificent natural park waiting to be laid out.

I planted the trees on Saturday, May 7th, 1904. I have noted also in my diary that the bronze tablets on the monument give the date of Livingstone's death as May 4th, 1873, and that the place abounds with testse fly.

I used to conduct each one of my hunting clients to pay their visit to Chipundu,* which, of course, was very interesting, and not the less so, by reason of the magnificent shooting to be obtained in the country around.

* As Chipundu has been mentioned, it will be suitable here to make further reference to this historic place. In the past there has been considerable doubt about its exact situation



THE LIVINGSTONE MEMORIAL

When I took Mr. P. F. Hadow we camped at the monument. In the evening we found a very fine bull sable, with body as black as coal, grazing in the open all by himself. There was so little cover available that we had to crawl, eventually finding ourselves lying flat on our stomachs within very easy shooting distance of the quarry. The trophy was obviously a very fine one, and I waited with considerable impatience to see the antelope drop to Hadow's shot. There was no shot, but instead a lot of muttered blasphemy from the prone figure at my elbow. The trouble was a combination of exhaustion, perspiration, dusty sand, and grass fire ash and innumerable and fierce tsetse flies. The pestilential insects perched on and obscured both the sights of his rifle. As soon as he had managed to sweep them away without alarming the sable by sudden movement they promptly settled on the glasses of his spectacles. This went on for a good ten minutes, but seemed like an hour. When the shot finally did go off it was a good one, clean through the heart, putting us both in a more contented frame of mind. The head is the twenty-ninth world's record. Not bad, since the sable is an animal of wide distribution. Capt. R. D. Waterhouse, another client, bagged two fine male lions in the neighbourhood after a good deal of trouble. Later, Mr. Hadow got a very fine rhinoceros bull on a neighbouring vleci, also "bagging" him with a single shot. Col. Blane had done the same thing at the same place with me the year before, also with one shot.

This particular locality may be recommended to the big-game hunter.

with reference to the rest of the country, although the exact spot is definitely known by an inscription carved on the trunk of the tree under which Dr. Livingstone died.

On Mr. L. Beringer's provisional map three different places are marked :

- (1) Chitambo, marked as a village.
- (2) Chipundu, marked the same.
- (3) Livingstone Memorial, marked with a cross.

These are shown as being some miles apart, appearing to be three different places. They are, in fact, all one and the same. Livingstone died under a very large Mpundu tree, standing just outside the village of a petty headman called Chitambo.

Chitambo himself is long since dead and forgotten. His successor moved the village away to Belgian territory on the other side of the Luombwa, very likely dreading the approach of civilisation when he saw bricks being made.

The actual spot remains under the name of "Chipundu"—not "Chimpundu," as one would expect.

The tree under which Livingstone died, and in the upper branches of which his body was embalmed, was of large size. This tree is common in this part of the country, and is noted for its golden, sweet, date-like fruits mentioned elsewhere. This was cut down to make place for the memorial ; as a memento I possess a section of one of the roots, amongst which his heart was buried.

The actual spot is on the small Luwi dambo ; it can hardly be called a stream. This dries up like the Bangweulu Flats, and then water has to be dug for. It runs in from the south, coming in on the left side (there is no real bank) of the Lulimala.

There is another Luwi, with which this must not be confused. This is also a tributary of the Lulimala from the south, taking its rise in the very pretty little lake called "Wakawaka" up in the mountains of the Itala country. This is thirty-two miles away in a straight line, but is a good two days' journey, as one has to follow up the windings of the Lulimala for water. I once shot at a big elephant here, which, unfortunately, got away after receiving one bullet from a .303. There are rhino here in plenty.

out of the snake. These obstacles had prevented the snake from making his exit from the fowlhouse via the narrow crevice by which he had entered.

The black mamba is not frequently met with here, although he is common in the low-lying Luangwa Valley. When alarmed he rears up, but nothing like so high as has been stated. In his reared-up position he can only travel very slowly even with a bush fire behind him, but he is very swift in his movements when flat on the ground, with only the head raised.

The highest peaks of the Mchinga are up to 6,000 feet above sea-level; possibly one or two are a little more. One of the most interesting of these, called Kapenyambo,* stands on the Mwatezi stream at the head of the Chitala Pass, east of the Great North Road, and about three days' journey on foot north of Serenje Station. The name is derived from "Penya"—look, and "Mbo"—buffalo, *i.e.*, the place where in the good old gunpowder days the native hunters used to build a shelter right on top of the peak in order to watch the valleys below for any sign of buffalo. There are some fine herds in this part ranging the steep, densely-wooded gorges where the giant Machila pole (bamboo) is here and there to be found. This is not at all nice country for hunting such game, as there are many scrub-covered stony slopes to traverse.

On the night of October 15th, 1914, I was in camp on the side of Kapenyambo, and saw a big shooting star, which lit up the whole countryside as clearly as day. It curled up into a loop, pointing back. The tail was visible for a full ten minutes; it gradually faded out at 9.30 p.m. There was no explosion.

The big mountain standing boldly about one hour's walk to the east of Serenje Station is called "Mchingawambo," which means "Mountain of Buffalo." There are very few buffalo round the mountain to-day, so that the name must have been given to it generations, possibly ages, ago when these animals were plentiful there.†

There was one old solitary buffalo who made himself a nuisance to the villagers. When they went out into the forest to cut down trees for garden making, this fierce old fellow would chase them back again, on two occasions tossing a man up into the air. Pitfalls were set for him without result.

Eventually a deputation was sent in to the Boma for someone to go out and get rid of him for them, otherwise he would soon kill someone. I obliged, accompanied the next morning with sufficient villagers to carry the few loads I needed. On approaching the village I selected a site for a camp about one mile out, and leaving everyone there except three chosen local natives, went off on a tour round the old gardens to look out for his spoor, and to follow it if fresh enough. It was a long time before we could find any fresh spoor; in fact, we should not have done so but for a fortunate chance.

* Pronounce it "Car-pain-yarm-bo."

† The buffalo suffered more than most other animals from the great rinderpest epidemic of 1894.

After travelling for about three hours and seeing neither buffalo nor anything else—there is not much game there—we heard sounds away on our right, indicating galloping hoofs and swishing bushes. These old gardens of the Alala are all surrounded by thick belts of dense bush which are sprouting out round the stumps of trees that were felled for making the garden. These are lopped off about the height of a man's shoulder, after which they quickly sprout all round the trunk into a dense bush so thick as to look almost like a trimmed holly bush. We went across to investigate and in a few minutes picked up the fresh spoor of a very large buffalo bull. He had been resting, and by some chance—on this occasion a lucky one—had perceived our wind and taken to his heels. We were able to follow his spoor plainly; he did not go far. Soon his presence was made known to us by the flicking of his ears as he brushed away the tormenting flies. He was difficult to make out properly in the thick covert, but I could see that he was facing us and was quite aware of our presence. I took a shot with my heavy rifle at what I judged to be his shoulder, hoping, of course, to drop him. However, he went off again, but more slowly this time. When we came up to him again he had just crossed a tiny mountain brook and was going along the opposite side. At the second shot he turned towards us with a hoarse bellowing and was already back across the brook before a third shot brought him down. Rather to the dissatisfaction of the Alala, I kept a good half of the beef of this animal to be made into biltong for use at the station. I used it all up in payment for bundles of good thatch, which is hard to find in the rains, and which the natives had put aside stored in sheaves on platforms amongst their huts.

The view from the top of Mchingawambo Mountain well repays one for the arduous climb. Tall peaks are visible dotted all around the horizon—sixty of them in number. The first thing that strikes one is what a beautiful country Ilala would be for a prospector. Prominent amongst these peaks towers the huge form of Kweshi, standing on the escarpment of the Mchinga Plateau, which is clearly visible on a fine day for a distance of sixty miles—that is, from Serenje Station, from which it lies to the south. Some small hills to the north of Kweshi are known as Chinyo. On the top of Chinyo, which is 5,000 feet above sea-level, there is a delicious spring of cool, pure water; 800 feet lower there is nothing but boiling-hot, brackish springs.

Croad, whose great hobby was mapping, climbed every large mountain in the country with his theodolite, much to the disgust of his followers, who had to climb up and down after wood and water for the bleak wind-swept camps on the mountain tops. He climbed Kweshi Mountain, where he put all his men on to clearing down the bush in order to erect a beacon.

The ascent of Kweshi is another arduous climb. Croad discovered many interesting things in these mountain climbs of his, including unknown caves, and also that rhino wander right up to the tops of the highest mountains. When he had selected a tree for his beacon on top of Kweshi, he propped his rifle up against it. The north side is a sheer declivity, and

the beacon tree was on the edge of this. Thirty paces away a rhino appeared over the edge of the precipice, and was amongst them before they knew where they were. Croad rushed for his rifle—a double-barrelled .400—and put in both barrels, killing the rhino on the spot.

There are any number of rhino around Kweshi. The natives are so afraid of them at night that when obliged to sleep in the bush they climb up trees. The rhino will stand by the camp fire and look at them.

There is a cave in the large mountain Vimbi in the north part of the Serenje district. Vimbi Mountain is three days' journey north-west of Serenje on the left bank of Mlembo River. Inside this there is a native village; beyond that there are three or four other caves which are not inhabited, the main one of these is at the bottom of a long incline leading right into the heart of the mountain. At the bottom end of this cave there is a small hole some six feet deep; below this is a narrow passage, through which one creeps into a pitch-dark central hall. Here were discovered beds, old fires, cooking pots, etc., which crumbled as soon as touched. A stream of clear water runs through the cave; the rock is the usual quartzite.

The great mountain Salu is the biggest of the huge and beautiful castellated piles of rocks lying a short day's journey north of Lake Lusiwasi. This has a large cave on the north-east side. I have camped here at times, but never happened to come across the cave; Mr. Croad told me about it. The cave—in soft white quartzite, is about a hundred feet long and eighteen to twenty feet high. Prehistoric flint implements are to be found there in profusion; also round stones with a hole through the middle of each; for use, I should say, as the head of a club, though they have been termed "spindle whorls." There are piles of flint cuttings. Croad made only a superficial search, not having much time to spare. He picked up one stone axe and, before leaving, took a photograph of the walls, which are covered with ancient paintings and signs in black, white and red.

Prospecting is a fascinating pursuit that combines well with a sporting expedition into unexplored country. The usual outfit of an amateur consists merely of a miner's pan for washing gold, special steel geologist's hammer, iron pestle and mortar for crushing rock, blow-pipe, specimens, fluid for testing diamonds by their weight, and a copy of the "Prospector's Handbook." The whole lot costs very little, and is no serious weight. Incidentally, the hammer makes a splendid thing for driving in tent pegs, etc., and the pestle and mortar can be used for making potted meat.

Iron ore is plentiful everywhere. There is a large deposit of soft brown iron ore at a place called Msomani, an easy day's journey north of Serenje. The natives travel many miles for the ore from this place, where they have dug out a tremendous hole in the course of ages. The manufacture of iron for hoes, spears, axes, etc., is quite an industry, though diminishing since the natives took to working on the Congo and Southern Rhodesian mines, whence they are able to filch what scrap iron they want, avoiding all the

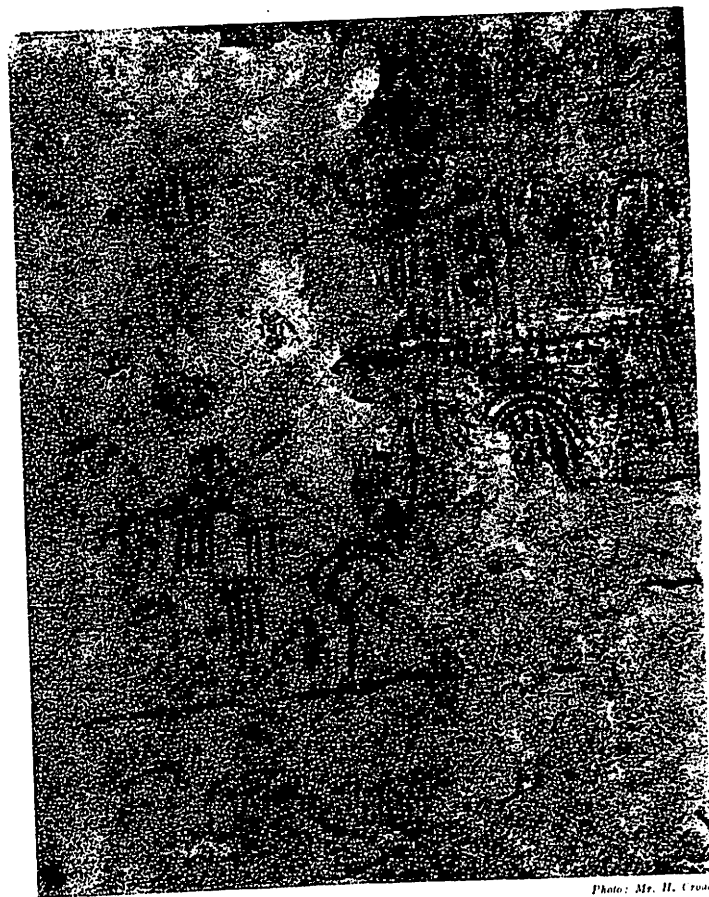


Photo: Mr. H. Croad

ANCIENT PAINTINGS IN SALU CAVE

After parting with Larsen I made for the Luwezi. This is another long opening with a small stream down the centre, and is the topmost of the three previously mentioned. Here I camped, spending the next day after the elephants without finding any fresh tracks big enough to follow.

Rhino abound along all the streams, and especially up at the source of the Lumbatwa, where there is always some cold water in reedy pools. (A few palms mark a water-hole at the very top.) The rhino path leading down the left-hand side of the Lumbatwa from its source is remarkably smooth and well trodden. It is wide because the rhino use it, but it is also used by elephants. As I went along it I had all the dry, hard cylinders of elephant dung kicked aside so that it made a good cycle track for use the next day. Here, on a later expedition, I got the rhinoceros shown in the photograph. The two horns are equal in length—Keitloa is the name given to this special variety.*

Rhino are plentiful round the source of the Lumbatwa. They come up from the Luangwa Valley, where they are very numerous from the Luangwa itself, climbing the Mchinga Escarpment by well-worn tracks tramped in the course of ages by them and the elephants. A fine example of this follows the Mpamadzi River in its course down the Mchinga. In places even the rocks are worn away by prehistoric horny feet.

In the Bangweulu Basin the rhino have confined themselves—for some reason not obvious—strictly to the stretches of forest country between the Lulimala River on the west and the Chambezi River on the east. Of course, they may have increased and overspread these boundaries since this was written.

Some tribes do not care to eat the flesh of the rhino and hippo. The Angoni, related to the Zulus, say that to do so would make them feel like cannibals, since the skin is black and hairless like their own. The Awemba eat it freely.

If a rhino charges it is as well to remember that he swings round only on his right foot, so jump to your own right when he does so. They are fond of a nap in the middle of the day, and are not always particular about seeking thick cover. The tick birds, churring like the winding of a clock, sometimes give away their presence. A rhino has to be got out of the way if a gang of carriers are following one's leaf-strewn "Lukomo" trail, but as a rule one does not want to shoot. As soon as disturbed he goes off at a spanking trot, making a good pace over even the roughest rocky ground. This is a bother when one is after elephant, as it gives the alarm. Unlike the elephant, they lie down to sleep.

this famous hunter, whom I met so unexpectedly and in such strange circumstances: "Reaching Walvis Bay at the end of August, the travellers trekked 150 miles east to Barmen, where the well-known Rhenish Missionary Hahn was carrying on his labours amongst the Damaras. On the way they secured the services of Hans Larsen, a Dane of herculean strength and courage, and a great hunter to boot; Hans figures frequently in Andersson's narrative."

* Length twelve feet nine inches from tip of nose to root of tail.



RHINOCEROS ("KEITLOA" VARIETY)

The rhino always has a sore place in the centre of the chest ; natives say they are born with it. I think it is the fierce blood-sucking flies biting them in a spot where they cannot reach to brush them off—it is always there.

The horn is not attached to the bone, but lies on the skin. It takes a devil of a lot of getting away all the same. Twenty strong men cannot tear away a few inches ; the best thing is to cut away the skin with it. A six-inch strip of hide from right along the back with the horns at one end and the tail at the other makes a good trophy, giving an idea of the size of the beast, without being too difficult to transport.

Some specimens of rhino have a rudimentary third horn behind the first two, of which the foremost is the longer. He strips the bushes between the two with his head on one side. The posterior horn has edges. It is not quite round like the front one.

The rhinoceros is the only beast of the forest or plain that does not rob the native gardens in season. Hippo, elephant and eland all do it ; also buffalo, as seen particularly on Mututa's gardens at Chyawa, the landing place at the north-east end of the Lake. On hard ground the footprint of the rhino is a half-moon, only the projecting ridge round the front edge of the big toe nail making a mark. I have never heard of lions even tackling a rhino ; one hopes that some of these wonderful masses of living energy will be allowed to survive. They are still in their thousands, nothing but man being able to kill them.

The bird in attendance on the buffalo and rhino, and sometimes other large game animals, has two names—one "Mwali" and the other "Nyamfi." This bird, about the size of a starling, rides comfortably on the rhino's shoulders, bedewing them with streaks of white excrement, as is seen in the photograph. His task is to keep the rhino free from ticks (the brilliant coat-of-arms variety like the quarterings on a shield) which only survive in crevices where the bird cannot get at them. In return he is fed, by way of a change, on the fat parasite grubs contained in the dung. The rhino (refusing the dole of his blood) is always kind enough to facilitate matters by disintegrating his fresh droppings by scraping them with his hind feet, and casting them backwards as a dog does. He does not do this with his horn. I have watched him doing it. Native hunters—often keen observers—say that if the rhinoceros forgets to do this he will always return to perform the feat—then they are waiting for him.

The tick birds, perceiving our approach, give an alarm like the winding of a clock or a ratchet. The rhino takes no notice of these alarms ; probably the birds do it too often, giving many false alarms—there are not many adversaries that can do much with a rhino. The tick birds are even an advantage to the hunter as they flutter, and churr within sight, denoting the proximity of the game. This is especially valuable information when one is coming on to buffalo or rhino in long grass.

When the rhino is following a definite track he always drops his dung at the *side* of the track, *not* in the centre. Elephant and buffalo deposit their

droppings right *in* the path. The tick birds also follow warthogs, making the same churring noise, of which the hog takes little notice. It is very busy finding ticks all round the ears. This little bird is a slate grey, darker on the back, lighter on the breast, with a brilliant cherry-red beak. When alarmed it flies straight upwards a few yards and hovers churring at the enemy ; when I made this close observation there was a warthog sow with two broods with her of different sizes.

Rhino and buffalo are the favourites of this bird ; they do not follow the elephant, but sometimes accompany roan and sable—they do not bother with the smaller antelopes, etc.

By this time we have rounded the southern curve of the Lake and Swamp and now face due north towards the big Chambezi River which forms them. In between the five small streams the Luitikila, Kanchiwiwa, Munikazi, Lualezi and the Lulingila, in the order named, all rise in the highlands of the east, to run west through thick forests before losing themselves in the plains, with the exception of the Lulingila, which maintains its channel to join the Chambezi at a little lake about three miles each way, called Chyaya.

The Luitikila, our next river in the direction of which we are going, is in most places an easy half-day's walk north of the Lumbatwa. The way is through the usual thick forest, freely interspersed with large treeless patches of brown iron-stone rock on which water stands after a heavy shower of rain. The Luitikila is larger, and carries more water than the Lumbatwa, being almost as large as the Lala Lukulu.

The "Chinika-Chitale" Plateau should not be passed by. It stands on the south-west angle of the cross where long. 31.30° and lat. 11.30° intersect. This is about ten miles long from south-west to north-east and three to four miles wide. This plateau, high on the very crest of the Congo—Zambesi Watershed, stands nearly 6,000 feet above sea-level. Here two streams take their rise : (1) The Nyamadzi, which runs down the Mchinga Escarpment on its way to the Indian Ocean, and (2) the Luitikila, which runs the other way in its course to the Atlantic.

The air on the top of this plateau is always delightfully cool and pleasant. In the latter half of June and in July there is hoar frost to be seen on the short grasses in the early morning. Elephants and rhino frequent the top of this plateau, but there are no human beings at all. The beauties of the scenery of these wild places would make them a pleasant retreat for a sportsman with a taste for solitude. The plateau is divided by a picturesque gorge flanked on either side by a ridge of low hills (the haunt of the klipspringer and rock rabbit) through which a broad, age-worn highway runs, stamped out by countless bygone feet.

It would be an interesting adventure if one had time and means to follow and explore this path to see how it makes its way down the Mchinga wall, which is here nearly all along a steep though wooded drop of 3,000 feet. Such paths would lead to places still unknown to ourselves, and whither the native has not cared to venture. Owing to its altitude this place is windy.

stewed as well. On an occasion like this, with plenty of good meat being tended on the fires, there is an air of comfort and contentment about camp in the green forest aisle. The smell of the roasting meat spluttering on the grids is quite pleasant, and little burnt tit-bits pulled off by the fingers are toothsome. Now and again the meat catches fire, and the sizzling strips are flung on the green grass to cool while the fire is rearranged.

As soon as ever the camp is deserted, Nature's scavengers clean up every scrap, only the sticks of the grids remain to tell the tale.

I went down the Luwansenshi with a shotgun to try for a lesser bustard (Namungwa), which are plentiful here. These birds are shy, but make very good eating. I saw some, but was not successful in getting a shot.

Both the large and the crested egret frequent the Luwansenshi. I saw another kind of fish eagle here. There was a pair settled on the highest branch of a tree overlooking the river. I was tempted to secure a specimen for examination, as this bird looked like something new. The flight feathers were a slaty-black, white on the part not uncovered when extended. The wing covert feathers were reddish-brown, covering the upper part of the wing bone. The head and neck were covered with streaky black-and-white pointed feathers. There was an orange tip to the feathers on the shoulders. The tail was nearly white, slightly dashed and streaked with brownish-black, consisting of twelve square-ended feathers arranged like a fan. Black tips to the tail feathers formed a bar across the tail, and the black tips of the tail covert feathers formed another bar across the tail. The flesh at the base of the bill was a plain grey, naked. The breast was white, marked with black and orange; this bird looked a lot like the screech owl in plumage. The under part of the flight feathers was slaty-black, white on the quill half of the outer feathers. The short underwing covert feathers were white, shaded lightly with amber. The feet were very strong, bare of feathers below the knee and covered with stiff, shiny, white scales. The curved talons were bright black, one-half to two inches long. The spread of the wings of this specimen was seventy-eight inches and the measurement from tip of beak to claws was thirty-one inches. This bird was in a semi-torpid state, being full of fish (Mpendi), which I shook out of his gullet in lumps, holding him by his feet and jerking him up and down. He was full, right up to the neck; he had been having a surfeit. The stomach was full of fine fish-bones, and their eyrie was surrounded by fish-bones. Matipa said that this bird was called "Nganda" and is not the same as the "Chembe" fish eagle. It seems to have a smaller body than the bronze-and-white Chembe, but the tremendous wings are longer and more pointed.

"Nganda" is the name of the fish eagle so often seen at Kapofu, where Mwanamburu has his village at the south-west point of Chirui Island. He is a mottled slate and white, or brown and white. The natives say that this species seldom drops a fish; the Chembe (scientific name is *Haliaetus vocifer*) often drops a heavy fish, and the natives watch out for it, having nothing much to do most of the time. The Nganda is smart

enough to drop a heavy fish from a height so that it smashes; he then swoops down and carries away a piece. The Nganda cries like a very young child. The extra large wings would seem to be given to them by Nature to enable them to carry fish—often for some distance—to dry land, where they can devour it. (See Chapter X.)

The Nganda fish eagle fishes much later at night than the Chembe. I have often noticed it at Kapofu long after it was too dark to see the sights of a rifle. The Chembe has very powerfully developed breast muscles. It can be observed, through glasses, of the fish eagles and other large raptors, that the wings do not ascend and descend quite in unison.

Now and again in the heat of the sun comes a whiff like a farmyard from the dambos, where the big game have been feeding. On places like this, the eland of the plains and the buffalo of the forests meet. Both may be seen at the same time, though not running together. These splendid beasts, heavier and more massive than our tuberculous tame cattle, are immune from the tsetse flies, ticks, and other pests, which destroy (with the possible exception of the cat) all the domestic animals. In November the dambos look just like Home meadows from a small distance, barring the towering anthills along the edges. The grasses grow taller, in large bunches; there is no proper turf. Beautiful low-growing flowers of every colour seize the opportunity to bloom as soon as the young grass is sprouting up after the fires. All through the rest of the year, completely smothered, they disappear to rest. The trees now have bright green succulent leaves, the joy of elephants, and the fat, light green, edible "Vinkuwala" caterpillars, which infest the Mtowo trees along the edges of the dambos. I have seen similar ones on grape vines in South Africa. "Vishimo" or "Visimo" (both plural) is the generic term for these. They are very much esteemed as an article of diet; the natives go out into the forest after them, collecting them in small baskets to cook and eat by the hundred. They are rather hard to detect on the bright green leaves, the colour of which their smooth bodies match, but they are more easily discovered by their round black droppings which are conspicuous on the dead leaves or bare ground below.

It is very pleasant watching the Puku so closely like this on a spring day, the fresh wind driving the cloud shadows after each other across the rippling surface of the young grasses. They are quite tame; two young cows kept pointing their noses and ears down-stream at something I could not see. The Puku has powerful hindquarters, and is fond of standing with them tucked in with the ridge of the back arched as if ready to spring away.

If you wish to approach a herd of Puku that can see you, it is better to stroll casually about instead of trying to crouch and stalk, which obviously means mischief. They love the open dambos, only taking to the forest if hunted. The charcoal of the newly-burnt valleys gives them a sooty look. By the end of November they are noticeably washed very clean by the

rains, and are at their brightest. There is no kind of protective colouring about them; nor is there in the case of the hartebeeste, another lover of open ground. In August the herds separate into males and females. The females run together in small herds accompanied by a single male to each herd. The rest of the males run separately. The horns of the Puku are ringed at the front only.

One December evening on the Luwansenshi, I watched a gaggle of spurwing geese rise for their evening flight. One goose gave three loud signals (Chikweeks) and they all rose up together, and immediately assuming formation, were soon out of sight. They had been quietly hiding in the wide fringe of reeds on our side of the river, and no one knew they were there until, suddenly, they all rose, not more than a hundred yards from the camp. They had taken no notice of the noise of pitching the tent. Sometimes the leader gives the signal with one loud clarion "honk."

When a spurwing goose is winged and brought down still alive—a thing frequently happening with such a big and powerful bird—the native sent to retrieve it is naturally expected to finish it off at once. His idea of doing this, if not watched, is to break both the legs and wings, leaving the helpless bird in agony. I have had an Awemba gunboy quite angry with me for insisting on his killing the bird. He said in an aggrieved voice, "It is killed Bwana, it cannot get away!"

Pity for the suffering of others is at a low ebb among these tribes. Elsewhere, I have seen a European angler catch a small fish suitable for bait, cut out a strip of the flesh from its flank to put on the hook, leaving the fish still alive to flap feebly on the planks of the jetty. This is as bad as the barbarity of the untutored savage.

Lake Sashiwa, near Mutale Kalawa's village, is a small marsh one mile across or less, lying between the Luwansenshi and the Lukulu Rivers. It is round in shape, and has no outlet save an artificial one, made to the Mununshi River by Wawiza fishermen—the only canal I know of. It is worth a visit; there are huge game pits among the mounds. The main point of interest is that it is, as far as this region is concerned, the extreme western limit of the rhinoceros; there are no more rhino in the parts which have still to be covered by us, *i.e.*, the north and west sides of the Bangweulu area.

There are Situtungu here, hartebeeste, zebra, and birds galore. It is half a day's march east of Mutale Kalawa. The tsetse flies are simply damnable at Sashiwa: they are at their worst in the early rains. In November there is very little water to be found here.

The lower Luwansenshi runs through large plains separated by narrow strips of forest. The high cement-like "Mafwesa" antheaps are taller and more numerous and diversified on these plains than in any other part of the Lake Bangweulu region. The tree-crowned "Vilulu" anthills, standing on an average about a hundred yards apart, are covered with grass which is tall and sweet. Antelopes stroll from mound to mound to graze

on this. The other and shorter grasses growing in between are tufty, sour, wiry-looking stuff. All this open land seems to be sour except where it is raised or drained. Where the natives cultivate it they throw the soil up into mounds to drain and sweeten it. Wild swine, both the warthog of the plains and the nocturnal river hog of the thickets, abound here. Some of the boys who had been sent out to cut up and bring in a roan antelope, also brought along the head of a red river hog, which they had come across lying on the river bank. They say that the evidence on the spot pointed to its having tried to swim across a deep part, and having been taken in the act by a crocodile. One cannot imagine how the head came to be left. There must have been a fight on down below water—a crocodile does not leave much as a rule.

THE LUKUTU STREAM.—To the west of the Luwansenshi River, and running roughly parallel to it, is the Lukutu. These two streams are separated by the dense forest of Sangano, which is a full day's journey across between east and west, but as long again, or more, up and down. This forest lies at the north-east corner of Lake Bangweulu, and is practically uninhabited by the natives. In the middle of it, however, there is a Wemba settlement under the petty chief Mpsa. The water supply of this village, which stands on no stream at all, is so remarkably bad and filthy, that any intending visitor should make a careful note of this beforehand.

Mpsa and his people settled here on account of the extreme fertility of the soil. Their large Vitemene gardens, which spread out in patches for miles round the village, are well dotted with thatched huts, supported at a safe height up in the air on trees or tall poles, from which coigns of vantage the owners endeavour to frighten away elephant and other nocturnal raiders from the crops.

The lower, that is the southern half of Sangano, is very heavily forested, containing many patches of dense Matezi thickets, in which the root rubber vine flourishes. There are elephants roaming all over this part of the country, still very wild, but with few big tuskers, and always on the move.

In previous times they were too near to the ivory-trading centre at Kasama, where such activities were only put a stop to in the present generation.

The Lukutu is not at all a long, perennial clear stream, rising high up in the mountains as do the Lukulu, Luwansenshi, and the Chambezi. It rises at the north end of a large, dense jungle area, roughly circular, and about fifty miles or a little less in diameter. The Sangano Forest is a sub-division of this; the other two parts, Luwumbu and Locha, we shall come to later. The Lukutu is not really a stream; it is more of an open marshy dambo, about three miles across along its lower half, with a deep sluggish stream in the middle densely fringed with reeds. Towards the end of the rainy season the whole of the open area of the Lukutu is inundated. By the end of the dry season water is nowhere to be found, only a few muddy pools