

The original paper was published in the *Journal of the Society for the Preservation of the Wild Fauna of the Empire* (1903-1925 and 1926-1950) or in *Oryx*, the journal of Fauna and Flora International (from 1951).

The website of the journal is (from 2008): <u>http://www.oryxthejournal.org/</u>

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Oryx - The International Journal of Conservation, is now published quarterly by Cambridge University Press on behalf of Fauna & Flora International. It is a leading scientific journal of biodiversity conservation, conservation policy and sustainable use, with a particular interest in material that has the potential to improve conservation management and practice.

The website, <u>http://www.oryxthejournal.org/</u>, plays a vital role in the journal's capacity-building work. Amongst the site's many attributes is a compendium of sources of free software for researchers and details of how to access Oryx at reduced rates or for free in developing countries. The website also includes extracts from Oryx issues 10, 25 and 50 years ago, and a gallery of research photographs that provide a fascinating insight into the places, species and people described in the journal.

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

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

# TANGANYIKA TERRITORY GAME PRESERVA-TION DEPARTMENT ANNUAL REPORT, 1935.

An interesting feature of game preservation during 1935 has been the establishment of a lion reserve in the Seronera section of the Serengeti plains. The families of lions there seem quite aware that no harm is intended towards them when parties of amateur photographers try to persuade them to pose for a close-up photograph. In fact photographs may be obtained without preliminary feeding, but this should not be attempted without due precaution.

A curious factor in our work is that where in one part of the Territory we make a reserve for lions in another we wage determined war against them. This latter, of course, is in districts where they have become man-eaters or cattle raiders.

I am glad to be able to state that it has been possible during 1935 to reduce in most areas the policy which necessitated the thinning out of elephant herds.

Poaching of elephant and in particular of rhinoceros by natives is on the increase. One does not blame the hunter so much as the sophisticated individual who encourages this illegal traffic in ivory and horn by holding out monetary gain if trophies are procured. Occasional convictions are obtained but these are usually against the man in the field, who risks his life for small rewards, and not against the more wealthy individual who acts as receiver.

Poisoned arrows are responsible for most of the killing, but a muzzle-loader in a native's hands over a water-hole at night at a few yards' range is a deadly weapon.

Rhinoceros horn is bought by receivers from native poachers at a price varying from 1s. 50c. to 2s. per lb. As its market value at the moment is 12s. per lb. even if it is disposed of by the receiver for only half its market value a very handsome profit is still being made.

A ranger was posted to the Tanga Province in June and a determined effort was made in the Umba steppe, in conjunction with the Administration, to deal with native poaching of game. Much good was done by filling in numbers of pit-falls, burning of fences, and confiscating of muzzleloaders.

### RESERVES.

A large area on the Mbarangandu River in the Liwale district, Southern Province, has been made a reserve, mainly for the protection of elephant. An extension has also been made to the Matandu reserve in the Southern Province. In this reserve all elephant have been driven out, but the area is of great importance for the conservation of other species of game which include a few rhinoceros (four in all), greater kudu, and sable.

Lake Rukwa Closed Reserve.—This area has now been closed for shooting until such time as a thorough survey of its fauna can be made with a view to declaring it a complete reserve.

An area in the Serengeti closed reserve of approximately 600 square miles has been closed for the shooting of lion. This area takes in part of the Serengeti in which lion photography has become so popular of late. During a recent visit there I counted over ninety different lions, and was astonished at their tameness and the ease with which photographs could be obtained without, as in the past, putting down a kill in order to attract the lions or keep them on the spot.

### BREACHES OF GAME LAWS.

Details of Offences under the Game Ordinance during 1935.

Offence.	No. Charged.	No. Discharged.	No. Convicted
Shooting game in a Game Reserve .	4	— <sup>0</sup>	4
Hunting game without a licence	67	4	63
Illegal possession of Government-owned			
trophies	39	7	32
Unexplained possession of game meat or			
trophies	13		13
Hunting, game by means of poison,			
traps, pitfalls, snares, bows and			
arrows, and killing fish with posion,			
ete	<b>20</b>	1	19
Total	143	12	131

#### DISEASE AMONG GAME.

A considerable number of wildebeest calves from about 7 to 8 months old died in the vicinity of the Seronera River, Serengeti Plains, Lake Province.

Five sick calves were shot by Captain Moore, V.C., and blood slides sent to the Director of Veterinary Services, who diagnosed that the mortality was probably due to rinderpest.

It was notable that only young animals showed signs of disease.

Reports have been received which show that eland have been dying in the Shambarai area, Arusha district, Northern Province. Dead eland, giraffe, and bush pigs have been found on the extensive plains which lie between the Naperera main road on the east and the Masai district boundary on the west. This area is also in the Northern Province. It is suspected that these deaths are also due to rinderpest.

#### ELEPHANT CONTROL AND CULTIVATION PROTECTION.

Southern Range.—During the year operations in the Southern Province were augmented and as a result raiding has diminished everywhere. Unfortunately it has been found in this province that elephant will not learn to keep away from cultivated land; to a large extent this is due to the very scattered population which is spread over a large area.

The following is a short summary of the report from the Game Ranger in charge, Mr. Harvey, on the year's work in the Southern Province.

Most of the elephant in the Kilwa district have been killed or driven through the Liwale district to the western border into the proposed elephant reserve on the Mbarangandu River. In the Liwale district Mr. Ionides with untiring energy assisted by excellent game scouts accomplished the most difficult take of clearing most of the elephant from the populated areas, driving a large number into the elephant reserve on the Mbarangandu. As there are hundreds of square miles of thickets in the Liwale and Kilwa districts it was no easy matter to dislodge the herds, of which there were many. The western Liwale reserve on the Mbarangandu is in an excellent position as far as elephant are concerned, and will also serve the Tunduru, Songea, and Mahenge districts. Mikindani, Tunduru, and Newala districts were free from raiding at the end of the year. In Songea district the elephant have been cleared from the most heavily populated areas and the results are very satisfactory.

1,796 elephants were killed in this range.

Northern Range.—Captain Minnery's report shows that more complaints of elephant depredations were received and dealt with than in any previous year in this range. As the areas under cultivation increases in response to the demand for more crops, so requests for assistance against raiding animals become more frequent.

Assistance was given in the following districts : Kondoa-Irangi, Singida, Mbulu, Arusha, Moshi, Korogwe, Tanga, Handeni, and Pangani.

Elephant herds did not raid into the fertile valleys of the Luwengera, their objective in the previous years; only one raid took place at Mashema at the northern entrance to the valley, and one elephant was killed. In this area operations in the past appear to have had a good effect.

Control in this area has been difficult owing to hunting tribes and alien hunters who harass game, including elephant, along the Umba River. This situation has, however, been remedied to some extent (see the first paragraph of this report).

Records show that fifty-two elephant and fifty-five rhinoceros were destroyed in the Northern range in defence of cultivation.

Mahenge Range.—Mr. Arundall, M.C., reports that as in previous years his control schemes have been mainly concentrated around large settlements, to the detriment of the small isolated areas. The protection of the larger settlements is a practical proposition, but owing to lack of time and funds assistance to scattered cultivated areas is impracticable. As an example Mr. Arundall again quotes the Kidodi area which has probably fifteen to twenty square miles under cultivation. Although this area adjoins the Selous Reserve which is noted for the number of its elephant, not a single case of raiding took place between June and December.

"Pilot" buils are usually the first to raid cultivation and they are generally easily accounted for. The herds may then move up to ascertain the cause of their failure to return, and probably run into a carcass or two, which sometimes has the effect of minimizing the raid or of diverting the herds to other pastures.

Buffalo have been responsible for raiding a number of shambas planted with mealies and beans; one hundred and sixty-nine had to be killed.

Eland do a certain amount of damage to cultivation, but the situation is usually exaggerated, as it nearly always is, where game animals are concerned.

Little or no interest is shown in regard to the main offenders, baboons, monkeys, and pigs, which do not appeal to the palate, but if a herd of game ventures anywhere near to a native shamba, then an urgent message is sent for the services of a game scout, and any resultant issue of meat is eagerly accepted.

Three hundred and twenty-six elephant were killed in this range (198 bulls and 128 cows).

Eastern Range.—Mr. Gabbutt reports that no more intensive shooting is needed in the range under his control, but that scouts must be maintained to deal with elephant which return, as they will almost inevitably follow their old tracks, which have been used for generations.

Rufiji District.—During the year, 210 elephants were killed as against 468 during the preceding year, when a thinning out of the herds was carried out. In the same district seventyfour hippopotami were killed as against over a thousand during the previous year.

In Western Rufiji the villages are so small and scattered that protection is impossible to each individual village.

Bagamoyo District.—The number of elephants in this district varies, but at times there are as many as 150.

Here again cultivation protection is rendered difficult on account of the scattered population.

Bagamoyo contains some of the rarer species of game such as sable, which are to be found throughout the district. A few fine greater kudu were seen within ten miles of the Boma. It was disappointing to find practically no game in the sparsely populated and uncultivated part near the old Wami reserve. This is due to native hunting; the sound of muzzle-loaders was heard daily.

Reports from the various ranges all point to the fact that a situation has now been reached whereby the thinning out policy may be safely discontinued. If elephant again appear in cultivated areas, however, they will have to be killed.

It has not been a pleasant task to order the destruction of these pachyderms, and a great deal of hard and unpleasant work has devolved on the rangers and game scouts responsible for their destruction. Letters have been received from game lovers, who deplore the policy of shooting marauders and suggest the use of maroons instead to drive them away. This method has been used with success in areas where elephant were few, but it cannot stop their numbers increasing, so however much the present policy has been deplored, the action taken was unavoidable in a territory the main products of which are agricultural.

The following big game animals were killed by the Department during the year under the control policy :---

Name of Range.	Elephant.	Rhinoceros.	Hippopotamus.	Buffalo.
Northern	52	55		
Southern	1796			
Mahenge	326		<b></b>	169
Eastern	410		218	
Serengeti	10			
-	<del></del>	<b></b>		<u></u>
Total	2594	55	218	169

Average weight of ivory shot and found :---

By Licence-holders	57 · 40 lb.	per tusk.
By Game Staff .	12 · 45 lb.	,
Found Ivory .	16·01 lb.	

Heaviest tusks obtained during the year in pounds : 133, 121, 117, 110, 101, 97, 96, 90.

#### VERMIN.

Although vermin destruction is officially in the hands of the native authorities, where damage has been done by pigs, wart-hogs, baboons, and monkeys, the rangers have regularly assisted by giving instructions and demonstrations in the correct method of using arsenic for baboon and pig poisoning.

Mr. Harvey, Game Ranger, Lindi, reports that man-eating lions have been exceedingly troublesome in the Southern Province, killing between thirty-five and forty natives. Some years ago as many as one hundred and forty people were taken in the Lindi district alone in a few months, but during the three years previous to 1935 the number of deaths was reduced to less than twenty per annum.

It appears that any lion in this district is liable to become a man-eater, irrespective of age or sex. Five man-eaters hunted together until they were killed; all these beasts were fully grown and in good condition, and it is difficult to understand why they took to killing human beings as on several occasions when they were being hunted the freshly killed remains of pigs were noticed.

Lions in the Lindi and Mikindani districts are most peculiar in their habits. They walk regularly through native villages at night, rubbing themselves against the walls of the huts, lying down in the roads between the huts, and eating fowls wholesale. Dealing with these animals was difficult, especially as the bush is low and dense, and in the open patches the grass is long. Down-pointing trap-guns were practically useless as the lions would not enter, but often walked round these traps roaring and tearing up the grass in their rage. Horizontal trap-guns were used with some success but as this method is dangerous to human beings, it was seldom used.

However, by tracking, driving, and trapping for several months, fourteen man-eating lions were eventually killed.

In the Dar es Salaam district in the region of the Pugu hills, a number of natives have been killed or injured by lions. Reports show that four lions have been accounted for by local natives and one by game scouts.

The Ranger pointed out, in a report written during 1935, the danger of poisoning pigs, which are the main source of food for lions in the coastal belt.

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#### CASUALTIES.

Game Scout Ramathan Bongololo was tusked by an elephant in the Songea district and died as a result.

Game Scout Hamisi Mkani was bitten in the Mahenge district by a snake locally known as "Ndunguru". He died some few hours afterwards.

Scout Ali Mohamed was seized and badly shaken by an elephant but managed to get away with minor injuries. He recovered eventually.

Game Scout Mohamedi Mbamba had the stock of his rifle smashed by an elephant but was uninjured himself.

Game Scout Juma Mohamed was gored in the thigh by a wounded buffalo, but was able to finish off the animal.

# RANGERS' OBSERVATIONS.

Captain Moore, V.C., reports that in the first week of June game was still concentrated on the plains. He gained the impression that the concentration was breaking up prior to returning to the bush for the dry season. Near a water-hole, which a number of wildebeest used as a drinking place, he found a Blacksmith plover sitting on two eggs. At the end of a week although hundreds of animals had watered there the eggs were still intact. Two species of quail, the Button and the Harlequin, were noticed in large numbers, all with young; a Cape widgeon with twelve fledglings was seen on Lake Magadi near Moru, also a crested crane sitting on two eggs and an Egyptian goose with three half-grown goslings.

Two lions were seen in a tree; one, a lioness, was in the topmost branches about 20 feet from the ground. As she had two young cubs she may have climbed the tree to get away for a rest.

Usually when lions are accompanied by young cubs, it is the lioness who stands her ground, but on one occasion Captain Moore met a lion, lioness, and two cubs, and it was the lioness who cleared off. The lion stood looking most unpleasant, and ready to charge, and it was not until the lioness and cubs were well out of sight, that he gradually moved away. At Banagi Hill the wise move of making a 3-mile limit for the protection of all animals is well evident. Both game and birds are absolutely tame with the possible exception of roan which still seem shy of visitors.

With all this game about it is indeed surprising that the native staff are able to grow mealies during the rainy season, and although the gardens are unfenced, the only depredations are from the small grey monkeys or *tumbili*.

The record number of lions seen in one day is held by a party, who saw no less than fifty-six different lions on the Seronera before breakfast.

Some parties lately have been very thoughtless; instead of feeding a pride of lions some distance away from their camp, they have preferred to do it close at hand, with the result that one well-known pride began to associate meat with tents to the intense discomfort of visitors.

On one occasion Captain Moore was standing in the middle of the road near to the Orangi drift, when from the opposite side of the drift appeared twelve Thomson's gazelle. As they walked towards the drift, he froze in his tracks to see what they would do. He was in full view, some 20 yards away and wearing a light-coloured shirt. They actually crossed the drift and passed on either side of him within 2 feet so that he could have touched them, and it was not until they were 20 yards past him that they ran away.

When the two rivers Orangi and Makungu are in flood, immense number of fish are to be seen coming up the rivers. Often a hundred were caught daily in a fish trap. The species are :--

Ningu (n	ative na	ame)		Labes victorianus
Kuyu Mbiru	,,	•	•	Barbus radcliffi
Mbiru	,,	•	•	Tilapia variabilis.

Mr. B. Stowesand, a settler at Oldeani, was killed by an elephant, apparently, while attending to his water furrow in the forest he was attacked and the beast afterwards covered his body with branches and leaves. As unprovoked attacks are unusual, this animal may have been previously wounded.

Native reports from villages on the side of Mount Meru

showed that baboons on several occasions have attacked goats. Their method was to seize a goat and tear out its eyes. A scout was sent there who shot a few baboons and corroborated the information.

The giant forest hog is reported to have been seen both in the Kilimanjaro reserve and at Oldeani.

A well-known planter and his wife had rather a startling experience whilst travelling by car on the Same-Mombo road. As the headlights of the car were poor, they were travelling slowly. Suddenly the car bumped into an elephant, actually hitting the animal in the hind quarters. The lights failed and the car stopped; the self-starter refused to work. Elephants could be heard on both sides of the road but they made no attack and after some time the car was started by pushing.

A settler, living at Oldeani reports that on his return from the Serengeti he was travelling at night down the crater road between the Ngorongoro crater and Mr. Rhodes's farm. This road is very steep and winding, with many hair-pin bends, and the view is restricted by the side of the mountain and by thick bush and trees. Whilst negotiating one of these bends, the lorry collided with what at first was thought to be a fallen tree. However, the lorry began heaving up and down so much that the driver was afraid it would go over the precipice. The obstruction turned out to be a rhinoceros. He fired at it in the darkness and succeeded in killing the irate animal.

Game Ranger Lindi reports that he found buffalo feeding with elephant. He has also often seen duiker feeding amongst baboons.

On another occasion a lioness killed a pig near the rest camp at Sudi-Bay, and before eating it she disembowelled it and buried the stomach in the ground. This is not the habit of the Serengeti lions with such animals as zebra, topi, wildebeest, and kongoni, for Captain Moore, who has seen very many hundreds of kills eaten by lions, states he has never seen them disembowel a kill.

Game Scout Mbaya Hamajani of Songea informed

Mr. Harvey that several head of cattle ran wild during the war and joined a herd of buffalo in the Zulu country; he states that these cattle interbred with buffalo. An attempt is being made to verify this statement.

It would appear that elephant nearly always use their tusks when killing human beings. Mr. Harvey quotes eleven instances in which natives have been killed or gored and in every case tusks have been used.

A week-end drive to the Ruvu River would surprise some of the residents of Dar es Salaam, who often complain that they never see game. At a distance of four or five hours' walk up the river from the ferry good-sized herds of eland, zebra, and wildebeest can be seen on the plains; giraffe also are very plentiful there.

Mr. Arundell reports that it is not often that one notices the spoor of very young elephant amongst raiders and brings up an interesting point. At what age do elephant calves accompany their mothers on raiding expeditions? As an example, he mentions that on one occasion he captured a very young elephant out of a well-known raiding herd which constantly visited the Msindazi forest some 5 miles from the nearest cultivation. After the calf had settled down and become friendly he was offered pawpaws, bananas both ripe and unripe, sweet potatoes, green mealies, sugarcane and bean tops, all of which he refused. Buffalo bean vines, other wild beans, and creepers were, however, eaten with great gusto. After the calf had been in captivity for about a month, he accepted and ate the various cultivated delicacies which were offered.

Mr. Ionides reports he has noticed on several occasions that when an elephant or elephants have been killed in or near a shamba, their companion or companions, which escaped at the time, returned and raided the same shamba on the following night. On another occasion he noticed four bull elephants in company with a very small calf. No cow was present nor was there any sign of one in the neighbourhood.

One of Mr. Ionides's game scouts, who is an unusually

accurate observer, reported to him that whilst following a large herd of elephant in the Liwale district, he heard a tremendous uproar from a valley ahead. On approaching, he saw a herd of elephant milling. Presently, the herd got his wind and cleared away. On investigation he found the remains of a wart-hog smashed into pieces.

On one occasion a lion was observed to be eating an elephant calf, which it would appear to have killed judging by the marks on the calf.

At a village called Mtepera, Kilwa district, two male lions had a fight, during which the larger of the two lions disembowelled and finally killed the smaller one and afterwards ate a large portion of it. No lioness was present.

Although wild-dogs are not supposed to eat any kill except their own, Mr. Ionides found a pack of them feeding on the carcass of an elephant he had killed on the Ngurumahiga River, Liwale district.

On another occasion he noticed a female bushbuck playing with a flock of guinea-fowl. First the guinea-fowl would run after the bushbuck, which immediately turned and ran away, then the bushbuck would turn and chase the guinea-fowl. They played like this for quite ten minutes.

Last December whilst passing through the Sanya plain, I myself noticed a greyish coloured animal with a herd of zebra. The animal appeared to be a hybrid. A few days ago I visited the same area and after some time the animal was located again. It was then running with a herd of zebra some three hundred strong, led, to my surprise, by a fine fully-grown donkey. Telephoto pictures were obtained from as near as 75 to 100 yards of the hybrid. The animal was light-grey with narrow, faint black stripes on the neck, body, quarters, and legs. It had a dark mane; a distinct black stripe ran upwards from the root of the tail, and there was a black splash between the eyes, but no stripes on the face.

Honorary Game Rangers.—Mr. Rodger, Honorary Game Ranger, reports that whilst on safari in the Mgololo basin in the southern part of Iringa district, he noted a lone buffalo bull standing quite unconcernedly in the middle of a large herd of sable. The herd bull—of which there was only one —was standing slightly apart from the herd as he usually does and seemed to take the presence of the buffalo for granted.

Mr. Gordon Russell, Honorary Game Ranger, whilst on safari near the Olduwai gorge, states that he shot a Thomson's gazelle ram which had both ears cropped off close to the skull —apparently by a knife. It seemed none the worse. Once before he noticed the same with a Coke's hartebeest. His natives informed him that it was done by the Masai herdsmen when the animals were very young and easy to catch.

Major F. C. H. Bostock, M.C., Honorary Game Ranger, reports that some native boatmen at Kala mission on the shores of Lake Tanganyika had drawn up their canoes and were sleeping on the sand preparatory to carrying up their loads in the morning. Attracted probably by the smell of fish, a crocodile came and caught one man by the toes of one foot. His shriek awoke his companions who, thinking they were attacked by a lion from the shore side, rushed for safety into the water. The man first taken had got free, but that crocodile or another seized one of the other men and carried him off. After many weeks of attention from the White Fathers, the first man recovered with the loss of one toe.

## GAME BIRDS.

Information has and still is being collected from all over the Territory with a view to enforcing a close season for game birds.

As their breeding seasons begin during the early rains and continue through the heavy rains, a period of four months will be selected to cover the time during which the chicks are unable to fend for themselves and where the death of the hen bird would mean the loss of the brood.

### HONORARY GAME RANGERS.

Honorary game rangers in 1935 numbered thirty-nine.

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Revenue from gan	ne	licences a	nd from	n :	fees		
collected for	gan	ne animals	expor	teđ	to		
Zoological Gard	lens	s	•			4,6	06
Revenue from sale	of	ivory, etc.	•	·	•	17,6	68
		Total				£22,2	74
TABLE SHOWING REVENU	JE (	COLLECTED	DURING	THE	PAS'	r foui	R YEARS.
TABLE SHOWING REVENT	JE (	COLLECTED 1 1932.	DURING 1933.	THE		г ғо <b>u</b> і 84.	r years. 1935.
TABLE SHOWING REVENT	JE (			THE			
TABLE SHOWING REVENT	JE (	1932.	1933.		19	84.	1935.
		1932. £	1933. £	)	193 4,	84. £	1935. £

STATEMENT OF EXPENDITURE FROM 1ST JANUARY TO 31ST DECEMBER, 1935. Approved Total

		Estimates, 1935.	Expenditure.
		£	£
Total for the Department	•	10,916	11,108

# ZULULAND.

GAME RESERVE.

Report of Conservator, 1935.

In common with other parts of North Zululand, a most serious drought has been experienced in the local game reserves. As will be seen from the subjoined rainfall return for 1935, less than 18 inches of rain fell for the twelve months as compared with 35 inches for 1933, and 34 inches for 1934. The conditions in the Mkusi Area from July to the end of the year gradually became worse, until at the end of December, the whole section was practically a desert. The game wandered out of the Reserve in all directions in a vain search for food but the state of affairs outside the Reserve was as bad as that inside. It is a marvel to me how any animal could live under such conditions, but the Impala especially were able to keep in fair condition. The acacia and other trees, no doubt, supplied the necessary food as there was certainly no grass. The trees were grazed off to the height the animals were able to reach and presented a quaint spectacle just

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