

## A JOURNEY TO THE LORIAN SWAMP, BRITISH EAST AFRICA.\*

By Lieut.-Colonel W. H. BROWN.

It is necessary to obtain the sanction of the Commissioner of the Protectorate to pass the equator to the north and to travel to the east of Mount Kenia, for in this direction the natives are little known, and they are believed to be hostile. I was referred by the commissioner to the sub-commissioner of the Fort Hall district, on the understanding that if no objection was raised, the route to the east of Mount Kenia could be taken.

The caravan, or safari, as it is called in East Africa, consisted of thirty odd porters and a Swahili guide who had been to the Lorian swamp before. The porters were Swahili and Wanyamwezi: these men are the most suitable for long journeys. They carry more weight, 60 to 70 lbs., are more dependable than the other races, and they like the life. To carry the food of the porters there were eight donkeys. They feed themselves, and were indispensable in a country where food is renewable only at wide intervals. The load for a donkey is 120 lbs.

Fort Hall was left on June 12, 1904, and the first part of the journey was to the junction of the Thika and Tana rivers, some 32 miles below and south-east of Fort Hall, the path leading down the spurs from the Kikuyu hills, on the summit of one of which the Government station is located. On this section three streams are crossed which flow into the Tana to the east, and through one of them the animals were swum by a rope fastened to the neck, paid out on one bank and hauled in on the other side of the stream.

The next section of the journey, 140 miles, is from a point on the right bank of the Tana, 6 miles up-stream to the east, to the rapids of the Tana, north of Mabea, a Wakamba village. It was the most unpleasant portion of the journey, from scarcity of water. The first march leaves the Tana for the Kangondi hills, south-east across undulating and rising grass plains with many dry watercourses. Camp was close to a water-hole containing evil-smelling mud, which was cleaned out, and it was late in the day before water could be obtained. A hill on the Kangondi hills,  $1\frac{1}{2}$  mile off, bore  $132^\circ$ . The next march was over picturesque yellow grass expanses with acacias, and many ravines in the rough lava-flow on the surface. The road to Kitui branches off southwards an hour from camp, which was on the side of a north-and-south ravine with pools of clear water. Game was seen from the path—eland (*Oryx beisa*), hartbeeste, and zebra. A troop of two lions and three lionesses (my man said five) were hunting the same herd of game that I was, but they were wary and would not

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\* Map, p. 128.

allow an approach. The game was very shy, which I attributed to natives, and not to the lions. It is a remarkable fact, in my experience, that lions do not appear to scare game and make it difficult to stalk; hartebeeste and zebra will permit a gorged lion to pass close to them, quietly moving out of his way. I have seen zebra solemnly gazing at a lion 30 yards away eating one of their number.

The next two marches led out of these plains and among some hills to the east, to a village, Mewani, on one of the numerous spurs running north towards Mumoni. Mewani, 3959 feet (B.P.T.), on the head of a spur, is one of numerous Wakamba villages. There is a pleasing outlook over hills and abrupt valleys, the rocks are volcanic and gneiss,



EMBE OR JOMBENI MOUNTAINS FROM ROUTE, GOING NORTH AND PARALLEL TO THEM TO REACH QUASO NYIRO RIVER.

and the vegetation is fresh and green. The water-supply is precarious, and the people obtain it by digging in the ravines; for, like so much of Africa, the rain-water speedily runs off and evaporates. There is one noteworthy phenomenon observed here and on the Jombeni range, which accounts for the fertility of this place and others of like elevation, about 4000 feet, viz. the drenching dews, wet mists, and clouds which are condensed during the cool nights and suffice to keep the crops fresh and growing during the heat of the day. Tibui, the next camp, 7 miles to the north, is under the influence of the dews; but the next camp, 11 miles further north, is by aneroid 3100 feet, and here there is a desiccated thorn bush, no leaf-bearing trees, no villages, and the wet mists do not come down so low.

At Mumoni, camp was made up a hillside (3500 feet aneroid), to obtain water issuing from a spring. The two hills of Mumoni, the summits covered with green trees and bush, are a landmark seen from considerable distances, and about them are a number of Wakamba villages under the fertilizing water-vapours. Food was procurable in trifling quantities only, either from scarcity or indifference of the natives to sell. The Wakamba are a very numerous tribe and their country extensive. They are the most intelligent and industrious race in the protectorate. Their household utensils and personal ornaments have a finish and design superior to other tribes; their arms are bows and short swords. The next march was over the sand-bed of a dry watercourse, with villages bordering the way and hills on either hand to Okazi. Water was only obtainable by digging. The next march was to Millea, due east across a succession of steep volcanic ridges and ravines. A broken, arid, and wild track, the vegetation thorn scrub, cactus, and baobab trees. It was difficult for donkeys, and in several places they required assistance up and down steep and broken inclines. Prospectors of the East Africa Syndicate have been through this district, but no minerals were found. From Millea our camp was changed to Kimmangu, a village close by, to purchase food. The district is a dry one and probably subject to drought, the height 2500 feet aneroid.

From Kimmangu, a night march was made to Mabea due north. This march was made at night, because its length could not be ascertained definitely; the guide was unwilling to move. But the moon was full, and if the march proved a long one, it would be less trying for the men, and donkeys walk faster at night. At 7 p.m., with a rising moon, the march commenced, and at 11 p.m. the next camp, Mabea, was reached. Many Wakamba villages were passed, and from two of them men came out willingly to show the way. The path was open and free from difficulties, and the caravan moved quickly. There are many Wakamba villages round Mabea, which is 2750 feet (aneroid). It is a dry district, and the water is bad and obtained by digging. The physique of the people is inferior to that of the Wakamba previously met, and I saw a large number of men and women and children with indolent ulcers on the legs and person. But the better class among them, who drink milk I was told, were of superior physique and free from cutaneous affections. One old man appeared to have malignant disease of a knee-joint. These people seldom saw a white man. Before the camp was astir in the morning, many baskets of beans and flour were brought for the porters, and eggs and a fowl for myself. This portion of the country is entirely dependent on ample seasonal rains, scarcity and famine must ever menace the people, and their appearance denotes experience of privation. The attitude of these villagers was most confiding and friendly, and men, women, and

children came for medicine for their ailments, and were attended to. These are the last villages south of the Tana river, though patches of bush between here and the Tana are cleared and burnt, and prepared for cultivation in the rains. The next march was a long one without water, though exact information could not be extracted from any one. We marched at 2.30 p.m. the same day, and moving throughout the night, with a halt of three hours, the Tana river was reached at 6.30 the next morning; the donkeys coming in 45 minutes after; the porters, not till 9 a.m. The route was through a very dry, low hill country of dense thorn jungle. The loads on the donkeys were



TO EAST OF EMBE OR JOMBENI MOUNTAINS, SHOWING ROUGH VESICULAR LAVA SURFACE.

frequently overturned, and the bags torn, with loss of food; and the men had to stoop to avoid the thorns, which encroached on and nearly blocked the path in many places. It was a trying march for man and beast. Water was sent back from the river to stragglers. At 1 p.m. a move was made to cross the river. The main stream of these rapids, at this the dry season, is confined in a narrow, deep rock channel under the left bank, where it is too deep and strong to cross. Over the channel an ingenious interlacement of branches of trees has been placed by the Wakamba, who are traders and hunters in the countries to the north. The loads were handed across the bridge of boughs by men on either side and one in the centre. They were

then carried across two subsidiary streams by the men; these streams were not more than  $2\frac{1}{2}$  feet deep and some 25 yards broad. When everything had been placed on the farther bank, a favourable spot was located for swimming the donkeys. There was a formidable rush of water 35 yards broad, but the rope held, and they were speedily dealt with. Pushed in, they instantly disappeared under the swirl and eddy; but twenty men standing high above the water hauled quickly, and two men received each animal as it arrived and cast it loose. It was like having a big fish on. Had the rope broken, the animal would have been killed in the rapids below. It was a favoured opportunity for crossing a river which, after heavy rain, would have caused a delay till the water subsided, a delay of days probably. All pretence of official influence ceases south of the Tana. Camp was on the high left bank of the Tana (1800 feet aneroid).

The next section of the journey was from the Tana to Laiju or Zaichu, a village in the Jombeni range of mountains; or, as my guide called them, the Wa-embe mountains, after the name of the principal tribe living in them—distance 35 miles. Leaving the Tana July 2, a march of 5 miles was made on a path through thorn bush and trees to the Zangaza river, a clear stream 20 yards wide, 6 inches deep, which was crossed, and camp formed a few yards from the left bank, on an open space of grass surrounded by dum palms, mimosa, and green-leaf trees—a luxurious grove of shade after the dry, stark, thorn bush country passed through (altitude 1800 feet aneroid). The interpreter informed me that he had heard a lion “shouting” on the march. We halted to rest and feed the donkeys. This river was found to join the Tana  $3\frac{1}{2}$  miles to the east of camp. After crossing the Tana it is expedient to march in order, men and animals closed up, for a straggling party would be a temptation to the Wa-embe tribe who frequent the bush. They are reputed to be hostile to Europeans. The next camp was on the left bank of the Ula river, 10 miles, 2050 feet aneroid. The next on the Kura river, 2500 feet aneroid. Both these are clear mountain streams of cold water. After crossing the Tana, it was noticed that baobab trees, which were numerous and large south of that river, were not observed north of it. Lions down wind on the march smelt the donkeys and came up to investigate without showing themselves, though they were noisy. It is said that lions are silent until they have killed, but there are exceptions to that rule. From the Tana river the route is through small trees and thorn bush. At this camp there was foliage; it is close to the foothills.

Next morning Laiju was reached, about 7 to 8 miles, up through the foothills to the lower spurs of the Jombeni mountains, 3195 feet (B.P.T.). A good landmark for Laiju is a perfect crater or volcanic cone close by. Care is desirable in approaching this place; there are dense coverts on the track. The first natives suddenly met were

clearing the bush, and they ran at once for their shields and spears, which were stuck in the ground; but they were reassured by our quiet approach, and showed the way. On this march, in the coverts at the foot of the hill I saw a hartbeeste; the species could not be identified; it was the only one seen north of the Tana. A highly picturesque winding path led to Laiju; parts of it were completely embowered in creepers, forming shaded alleys. It was necessary to put in here to purchase food for the caravan. Laiju is within the influence of heavy dews and moisture-laden clouds at night; the soil is rich dark loam, and the coloured varieties of beans purchased were the finest samples



CRATER OF CHIOMBE, NORTHERN EXTREMITY OF JOMBENI RANGE.

seen in East Africa. The metama was particularly good; sweet potatoes, beans, and corn are grown in abundance.

When the extensive areas of mountains and valleys to the east of Mount Kenya are known, with their zones of varying altitude, temperature, and moisture, they will probably be found to be equal to the most fertile portions of the protectorate, and very worthy the attention of planters. The Jombeni range varies from a few hundred feet high to the north, where it ends in sterile slopes and isolated hills, to 7000 feet and probably more above and about Laiju. The existence of Wyzeri, headman of Laiju, and his people appears to be due to the sufferance of the Wa-embe, whose villages are on the encompassing mountains, and who could wipe him out at any time. Wyzeri said he was

glad a white man had come to his country; he had seen one before long ago, an American (Chanler?), who shot elephants. He expressed the hope that the Government would soon send white men to his country. "The Wa-embe were bad people, and killed his men and strangers." Full donkey-loads of beans and flour were purchased for small white beads and chain; an exchange of presents took place, and an amicable parting followed. The morning the caravan left Laiju not a native was seen; none of Wyzeri's people appeared to see us off. The explanation was that Wyzeri feared an attack upon us by the Wa-embe. Had it come off, by confining his men to their villages, all appearance of his being implicated would have been avoided. The next stage of the journey was from Laiju to the Guaso Nyiro river, some 70 miles.

Descending the foothills on July 9, a narrow belt of fine forest trees was passed through, and a route taken well away from, but parallel with, the continuation of the Jombeni mountains north-east, crossing lava ridges falling from the hills, and two clear mountain streams: camp was near the last, 2850 feet aneroid. Cultivation was noted on the slopes of the mountains. A good offering was given to the hills to discourage native enterprise. The next day seven other crystal-clear streams were crossed; one ran through a swamp, and one was seen to end in a swamp 200 yards to the east, and the same volcanic ridges. The guide cautioned me not to allow the donkeys to linger near these captivating streams, for there is a fly in the covert fringing them whose bite is fatal to donkeys; and so it is, as was proved later on. On the following day the route was over broad, flatter ridges, of vesicular volcanic rock, the lava-flow decreasing with the height and size of the mountains; yellow grass up to the knees (good fodder), scattered mimosa trees, raphoea palms, and dense greenery in the depressions containing the streams contributed to soften these wild tracts. Camp was at Mymboro, 2404 feet (B.P.T.), close to a spring and an isolated hill bearing 305°.

Thomson's and Grant's and Waller's gazelles, and water-buck, oryx beisa, eland, zebra, rhinoceros, lion, and I believe a few buffalo; ostriches, frankcolin, crested guinea-fowl, and lesser sand-grouse, are to be found north of the Tana and east of the Jombeni range. The next camp was waterless, and the men were prepared for it. At 1 p.m., July 12, we marched till sunset, and before sunrise next morning for two hours to obtain water, but there was none. After a long fruitless search the guide returned, and the march was continued till 6 p.m., when the donkeys were exhausted and the men spun out for miles behind. The donkeys were unloaded, a guard left, and with the few men who had come up, the donkeys, sheep, a goat and her kid, a thirsty party, we struck across very rough volcanic rocks in the dark to the crater of Mgambe (Chiombe) for water, which was reached at 9 p.m. There is water and slime on the floor of the crater. A water-party was

sent back to the men, which arrived as the last of the porters came up. In the morning one donkey and a sheep were found dead. Chiombe is at the northern extremity of the Jombeni range, and is a typical cup-shaped crater with a fissure in its brim on the east side, through which men and animals had tumbled the night before—altitude 2800 feet aneroid. Along the foot of the Jombeni range there are other craters more or less broken down. Near the water in the crater some bushes grow, and one of the donkeys was struck by a fly and rapidly swelled up along the belly, then the head and neck, and in forty-eight hours it was dead. To reach the Guaso Nyiro, a waterless plain of doubtful



CRATER OF CHIOMBE. THE BREACH ON THE EAST SIDE OF THE RIM OF THE CUP.

distance intervened. The guide said two marches. At 1.30 p.m., July 15, with a bearing of  $345^\circ$  on Donio Longelli, the caravan marched and camped before sunset. The route is over lava; in some places each step requires care, in others the rock is disintegrated into dust. There is a short dried grass, which the game eats close to the roots. Early on July 15 the Guaso Nyiro was reached, 2463 feet (B.P.T.). Donio Longelli bore  $117^\circ$  and about 1 mile. The river is some 25 to 30 yards wide and mud-coloured. The guide informed me that Mr. Tate, on his return from the Rendile country, had a camp a few yards away. From the crater of Chiombe to the Guaso Nyiro is not more than 14 miles, but not knowing that, the weak state of the donkeys required caution.

The next section of the journey was from this camp, following the Guaso Nyiro east by its right bank to the termination of the river in the Lorian swamp, 160 miles. In the narrative of Mr. Tate's journey to the Rendile country, *R.G.S. Journal*, February, 1904, the Lorian is said to be six marches east of this camp; my guide said sixteen. It was important to know how many days it was, because there was then only sixteen days' full rations for the porters. If it was sixteen days, it was sixteen days more to return to this camp, and eight days west from this camp to Mzara—*i.e.* forty days before any more food could be bought. It was decided to march four days down the river, and question the guide again. Having done so, he said it was twelve days more to the Lorian swamp. Full rations for twelve days then remained. The porters, when told of the state of affairs, said at once they were very willing to go on. They wanted meat, "only let it be large." Just before reaching this camp, the fourth down stream and some 42 miles, the lava-flow, which from the Tana everywhere forms the surface rock, ceases abruptly at a perpendicular basalt bluff 15 feet high on the side of a ravine, issuing on the river. From this spot, indicated on the map, to the Lorian swamp is about 100 miles. The surface of the country bordering the river is a calcareous loam, which in some places is no doubt alluvial, and the river flows quietly on about 2 miles an hour, very gradually and consistently falling from 1700 feet aneroid at this fourth camp to 908 feet (B.P.T.) close to the Lorian swamp—*i.e.* a fall of 792 feet in 100 miles, or 1 in 666. From the first camp on the river, 2463 feet (B.P.T.), to the fourth camp, 1700 feet aneroid, the fall is 763 feet in 42 miles, or 1 in 290. All the rapids and falls occur in the course of the river above the ravine noted, where it has been affected by the stupendous outpourings of lava which appear on both banks. The route to the Lorian below this ravine is easy, and the river is extremely picturesque, groves of dum palms and flat-topped mimosa affording pleasant shade for camps. The going is sound, the bush in stretches is sometimes dense, and rhinoceros harbour in it, but only once in my absence did one succeed in thick covert in rushing the caravan and overturning the donkeys. The few occasions when rhinoceros took the initiative were promptly dealt with, a Lancaster cordite rifle never failing to kill when it was necessary for the safety of the caravan; its power and accuracy were unrivalled. A most important detail on a journey of this kind is that the men should have confidence their protection is attended to. At the seventh camp down the river, at midnight a lion suddenly sprang into the camp and seized a man by the arm, but he only secured a blanket and made off with it. After crossing the Tana river, six porters were detailed for guard every night, each man for two hours, and the immunity from injury and loss of life is partly, at least, attributable to this precaution. The men demurred at first to the innovation, but later on they undertook the



GUASO NYIRO, EIGHT MARCHES FROM LORIAN, SHOWING A SPECIES OF WILLOW TREE.



GUASO NYIRO. CHARACTERISTIC REACH ON THE RIVER, SHOWING GROVES OF DUM PALMS FRINGING THE BANKS, SOME SEVEN MARCHES FROM THE LORIAN.

duty willingly. At camp 8 down the river an outpost of young warriors of the Samburu tribe was met. They appeared to be doubtful of their reception, but were soon reassured, and accompanied me to the main encampment of these people three marches down the river.

The Samburu at one time belonged to the Masai nation near Naivasha, but as the result of inter-tribal strife their ancestors migrated, and this section of them is located on the right bank of the Guaso Nyiro, up and down which they move to pasture their stock—viz. cattle, sheep, goats, donkeys, and a few camels. They are purely pastoral, and live exclusively on meat and milk. In appearance and bearing and arms and customs they resemble the Masai, and speak that language, modified perhaps by intercourse and intermarriage with the Rendile, who, they said, are their friends, and who wander over the country on the left bank of the Guaso Nyiro and to the north. Their headmen reported that they had recently been raided by the Wakamba from British territory, and were anxious to know if this had taken place with the approval of the British Government, for, they said, "we are the friends of the white man." They expressed fear, also, of being raided by the Masai. They were pacified on both heads, and it is to be hoped, for the credit of our reputation, that another outlet for the energies of the Wakamba may be found. An exchange of presents took place, and they said the Lorian swamp was four marches downstream; and so it was. But as the guide was not sure of the route, and the river has cut a canal-like channel through the alluvial soil nearly three marches from the swamp, and there is little indication of its course a few yards away from it, it was necessary to keep close to the stream, which winds much, and so it was not till the morning of the fifth day, August 2, that camp was pitched on the river some two hours from its disappearance in the reed bed of the swamp, where the river is not more than 10 paces wide and 2 feet deep. The swamp was only half an hour's walk, on a bearing of  $145^{\circ}$  down a gentle incline; and even then, unless I had been told that a dark line was a reed bed, I should not have known the swamp was certainly there. The altitude of this camp was 908 feet (B.P.T.) and 900 feet aneroid; and allowing 28 feet for the decline, the swamp is 880 feet above the sea. From the first camp close to Donio Longelli it had taken sixteen days to reach the Lorian, and the distance 160 miles. On August 2 and 3 the swamp was examined. Most unfortunately, the small quantity of food left for my porters did not justify a longer stay, and, much to my regret, restrained me from walking round the swamp. What was seen is an immense bed of reeds 12 feet high, and *no open water*. It extended east and south, and a line of low hills bounds it in that direction. My guide said he had walked round the swamp on two occasions, and it was a two days' journey. It is therefore probably 60 miles in circumference, and to the eye that is a conservative estimate.

He was clear that *no water flowed out of the swamp from any point on its circumference*. He was questioned closely on that point. The Guaso Nyiro, on entering the swamp, sends off branches on either side, the larger ones to the south-east; these branches divide and irrigate the surface to a depth of 3 or 4 inches. There are dry areas also, but the footprints of hippopotami and elephants on them were half filled with water, denoting a water-logged state of the surface. The swamp was entered by a hippopotamus track, walking at the side of it and on the bases of the reeds; at each step many mosquitoes were roused. In a large branch of the river there was a party of hippopotami, which



SAMBURU, ELMORAN (WARRIORS). AN OUTPOST ON THE GUASO NYIRO.

allowed a photograph to be taken at eight paces. Buffaloes were heard, and there was fresh spoor of elephants, but none were seen. The plain surrounding the swamp had a very desolate appearance to the horizon, a low scrub only dotted here and there. The surface sloped down to the eastward, and in that direction a few zebra and ostriches were seen. Between the camp and the swamp was a large herd of Grant's gazelle and a few water-buck. The scarcity of game in sight was surprising, and it was extremely shy. In the rain season, when the water discharged by the Guaso Nyiro over the swamp must be very largely increased, any extension in the area of the swamp must be to the east, for on the south the range of hills forms a dam in that direction, and the slope of the ground on the west would prevent any

appreciable extension of it that way. The general slope of the country, as I have said, is to the east.

Fourteen miles west of the Lorian swamp, on the right bank of the Guaso Nyiro, there is an extensive shallow depression, with two or three channels meandering across it, covered with coarse yellow grass 3 to 4 feet high, and enclosed by dense tree jungle. When the caravan crossed it, going and returning, the surface was hard and cracked, but it was obviously in the rains under water. The altitude by B.P.T. on the river margin of this depression is 1008 feet, *i.e.* it is 100 feet above the Lorian swamp. This area is also called by the natives Lorian, and in the rains would undoubtedly be a shallow lake nearly 20 miles in length from west to east, and 3 to 4 miles broad. It may be this place, therefore, which has given rise to the report that there is open water at the Lorian.

I saw a herd of about one hundred buffaloes on this depression, and going to the Lorian swamp a white doe water-buck, among a number of common water-buck (*Ellipsiprimnus*). On my return, and at the same place, I saw a white doe, and a white buck with her. They were alone. The buck was shot, the doe unmolested. The buck was a mature animal, perfectly white, with dark muzzle and feet, and eyes of normal colour.

March 6 up-stream was parallel to the Erimba plateau on the left bank, an elevation of some 20 miles in length, its long axis east and west, and its height 300 feet. Camp 12 was a few yards below a remarkable fall 60 to 70 feet high. Below the fall the stream passes through a gorge, the sides rising sheer for about 60 to 70 feet, on the right being white trachyte, on the left a dark basaltic rock. The river (low water) fell over a ledge of basalt, through narrow water-worn channels close to both banks, leaving the polished ledge of basalt in the centre dry; the extension of this polished ledge up-stream forms the bed of the river. This is probably the fall known as Chanler's. The general level of the surrounding surface above and below the fall is preserved, and out of hearing of the falling water there is no indication of its presence, which explains why it was not seen going down the river. On August 16 the first camp was reached, *i.e.* in thirteen marches from the Lorian, and the distance 140 miles (instead of 160 going down), a more direct course being preserved when returning from the Lorian.

The next stage of the journey was to Mzara, seven marches, on the west of the Jombeni range, and north-west of Laiju, 76 miles. This was the nearest food-supply. On August 17 the route was continued for four days up-stream on the right bank, gradually rising, the last  $4\frac{1}{2}$  miles of the fourth march being on a bearing of  $121^\circ$  away from the river, and parallel with a small mountain stream coming from Mzara. The altitude at this camp was 3213 feet B.P.T. This stream does not join the Guaso Nyiro, but disappears. In three more marches Mzara

was reached on August 23, the route continuing in proximity to the stream for water. On all sides a great plain extends to the mountains, rising gradually in terraces, the terminations of waves of volcanic flows from the highlands to the south. There are also undulations or broad ridges running from south to north. Dry yellow grass one foot in height and scattered flat-topped mimosa trees form a picturesque prospect. In the early morning the summit of Kenia stands out sharply, a fine sight.

Mzara altitude (mean of three observations, B.P.T.), 4456 feet.

„ (mean of two observations, Watkin's aneroid), 4450 feet.

„ (one observation, aneroid), 4400 feet.



GUASO NYIRO. TWO HOURS' WALK FROM ITS TERMINATION IN THE LORIAN SWAMP.

Ndominuki is the headman of this place, and is on friendly terms with the Wa-embe tribe, whose country marches with his. He is also friend of Mr. Neumann, an ivory trader in the district. He proved a somewhat inhospitable individual, but a supply of food was purchased for the men. They had been thirty-six days on quarter rations of grain, but fortunately a sufficient quantity of meat had been provided.

The next stage of the journey was from Mzara to Nyeri, with a diversion to the north to the Guaso Nyiro, and another on to the north-west slopes of Mount Kenya, to the lower limit of the forest belt, 7675 feet, B.P.T., some 200 miles. In one long march the plain to the north of Mount Kenya was crossed, direction west, to a stream 4920 feet aneroid, about 3 miles from the steep face of a plateau

400 feet high. Very strong winds from the mountains were experienced daily on these plains, and also on the Guaso Nyiro. On this plain *Oryx beisa* were very numerous, and hartebeeste were not seen. Should a sextant be used for observations, a protected artificial horizon is essential. The climate on the north of Kenya is exceeding dry, the nights cold, the days hot. It is agreeable in the early morning and after 4 p.m., and resembles the Punjab in the cold season. On the north-west side of Mount Kenya there are extensive rolling downs of grass at altitudes of from 5000 to 7500 feet. It has the appearance of being an ideal country for great game—extensive coverts, ample water, and abundant grass; but the game is gone, harried and slaughtered by the remorseless Wandorobo hunters.

Nyeri, an official station, was reached on September 18. From thence direct to Naivasha on the Uganda railway is four marches. My caravan proceeded by a more circuitous path, crossing the Kikuyu mountains north-west of Nyeri, the highest camp 10,239 feet (B.P.T.), and afterwards the Aberdare range.

The juniper trees on the Kikuyu mountains are particularly fine; one measured at arm's length from the ground 16 feet in circumference, and others seen were much larger. Various heaths, one very like heather, flourished exceedingly. Everlastings, daisy-like plants, docks, wild strawberry, nettles, brambles, a yellow flower in the grass resembling aconite, and various thick-leaved shrubs with fragrant odours were also noticed. The scenery is magnificent, a maze of heights, forest-clad with bamboos, juniper, and a tree with the outline of an oak, its branches gnarled and contorted, but the leaves resembling an ash, six on each side and one at the apex. These fastnesses were the domain of the elephant in past times, and would be so again if he was protected. But from the numbers of elephant pits passed with the rotting remains of elephants in some of them, it is evident that the Wakikuyu are engaged in the nefarious and illicit pastime of killing this noble beast under the protection of our administration, for previously the dread of the Masai kept the Wakikuyu to their own cultivated areas on the south of the range. These remarks refer to the Kikuyu mountains, and not more than four marches from Naivasha.

This, the final stage of the journey, occupied with halts thirteen days, the distance traversed 91 miles. The last two marches were over the plateau, between the Aberdare mountains and Naivasha. On this plateau there were numerous villages, flocks, and herds of the Masai. Part of these pastures are included in the 500 square miles grant to the East Africa Syndicate, and since passing that way the Masai have been removed to another portion of the country to make way for the new owners.

As a matter of interest, perhaps, for a later date, attention may be directed to the last 100 miles of the Guaso Nyiro river commencing

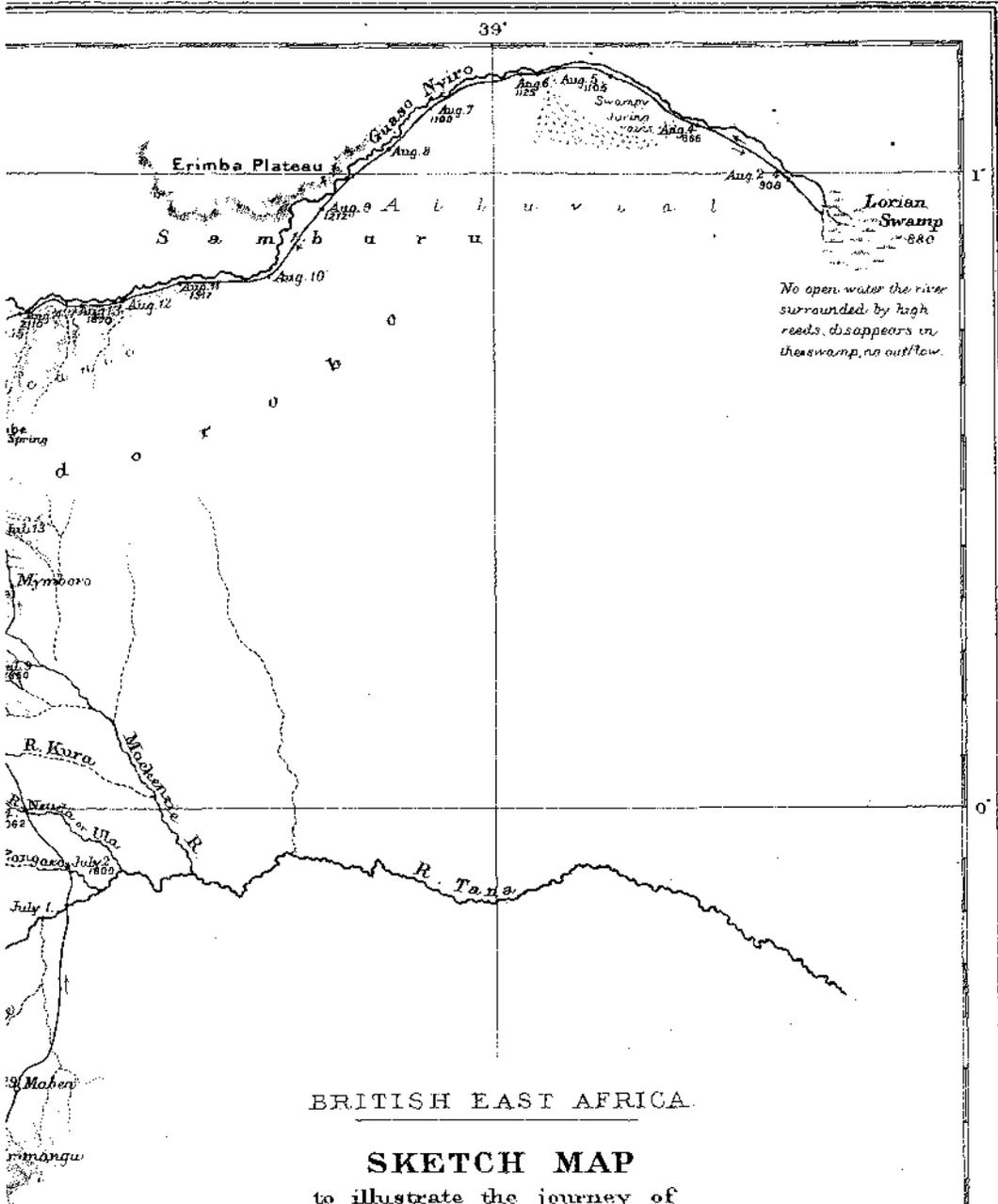
at the ravine on the right bank where the surface volcanic sheet ends abruptly (from camp I close to Donio Longelli, 40 to 41 miles east, *i.e.* down-stream). This is a spot which cannot be mistaken or overlooked. Thence to the Lorian swamp is 100 miles, and the fall noted was 1 in 666. The stream flows quietly at about 2 miles an hour; there are no rapids, and the banks vary in height from 4 to 12 feet: the latter is unusual. Any one travelling on the right side of the river will observe the very large areas which could with ease and comparatively small outlay be brought under cultivation by irrigation works. It strikes one forcibly that no river could well be better adapted for irrigation



LORIAN SWAMP AND HIPPOPOTAMI IN THE MAIN STREAM OF THE GUASO NYIRO, INSIDE THE SWAMP. A SMALL AREA OF DRY GROUND.

purposes, for control, and the water even in the dry season contains much earth in suspension; if flood it would be greatly augmented. The climate is dry between the rain periods, the nights cool even at the Lorian swamp, the sun very powerful during the day, though a higher temperature than  $93^{\circ}$  in the shade was not observed. The paramount importance of water in Africa is fully appreciated in Africa—little can be done without it; its presence under conditions favourable for use should attract examination ere long. The natural outlet for this district would be across a waterless level expansion of some 50 to 60 miles, probably, to the Tana river and the coast. The Tana river has this year been accurately surveyed by a party of gentlemen, with the object of initiating steam transport, and of taking up land.







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