



LIVINGSTONE AND WILDLIFE

M.J. Benson

is

a teacher, a keen naturalist and photographer who was a member of Chipata Branch. He was in the U.K. for a year after leaving Zambia and is now teaching in East Africa.

During his great journeys through Africa, David Livingstone recorded in detail a wide range of things. His observations on wildlife in the area that is now Zambia are recorded here. We are grateful to the Caledonian Council of Zambia for the use of one of the drawings that appeared in their commemoration booklet. The drawings, sketches and artist's notes to them are by Peter Edwards (including the Livingstone sketch taken from the Caledonian Council booklet). We are indebted to Mr. Edwards for his contribution, completed and sent to us from the U.K. by personal courier. The annotations in the text and margins (in bold type) are by R.J. Dowsett, to whom we are very grateful. It should be noted that some anomalies may appear in the text; due, in part to Livingstone's broad impressions of certain creatures and areas.

The First journey 1853 - 56

Livingstone arrived in Sesheke in June of 1853. He brought with him a young man's enthusiasm for opening up and bringing Christianity to a country which had occupied his mind all the time he had been in the restricting environment of Kuruman. He brought, too, a young man's enthusiasm for the flora and fauna of the country he was exploring. His eye was sharp and he was accurate to the last detail. His mind was active, and in his observations on animals and birds and fish he includes very intelligent speculations. Darwin's great seminal work had not, however, appeared when Livingstone left for Africa, and although he must have had ample time, towards the end of his life, to read it he never appears to have done so. Certainly, it never influenced him. He accepted the then current theories of Dr. Thomas Dick in which religion and science were not incompatible; basically it involves an acceptance of the Genesis story in which God created "every living creature that moveth" on the fifth day of creation. All nature's wonders, therefore, were seen by Livingstone as manifestations of the power and wonder of God. He did not, of course, present his findings in these terms; the discussions on animal life were simply a part of his travels, just as much as his discussions on the geology, geography, climate, etc. of the area in question.

Around Sesheke he notes an animal — the "Tianyane" — which is unknown further south. "It stands about eighteen inches high, is very graceful in its movements, and utters a cry of alarm not unlike that of the domestic fowl; it is of a brownish-red colour on the sides and back with the belly and lower part of the tail white." The description tallies most closely with the oribi, although is not conclusive. Further on he notes, of the same animal: "The colour of the hair in the young is better adapted for assimilating it with the ground than that of the older animals, which do not need to be screened from the observation of birds of prey. "He may not have read Darwin, but Darwin isn't far away there!

Of the area around Sesheke in general he observes: "Great numbers of buffaloes, zebras, tsessebes, tahaetsi (perhaps roan), and eland, or pohu, grazed undisturbed on these plains, so that very little exertion was required to secure a fair supply of meat for the party during the necessary delay." Shortly after this he enthuses about the "new undescribed variety" of eland he has just noticed:.....it was marked with narrow, white bands across the body exactly like those of the koodoo, and had a black patch of more than a hand-breadth on the outer side of the fore-arm.*

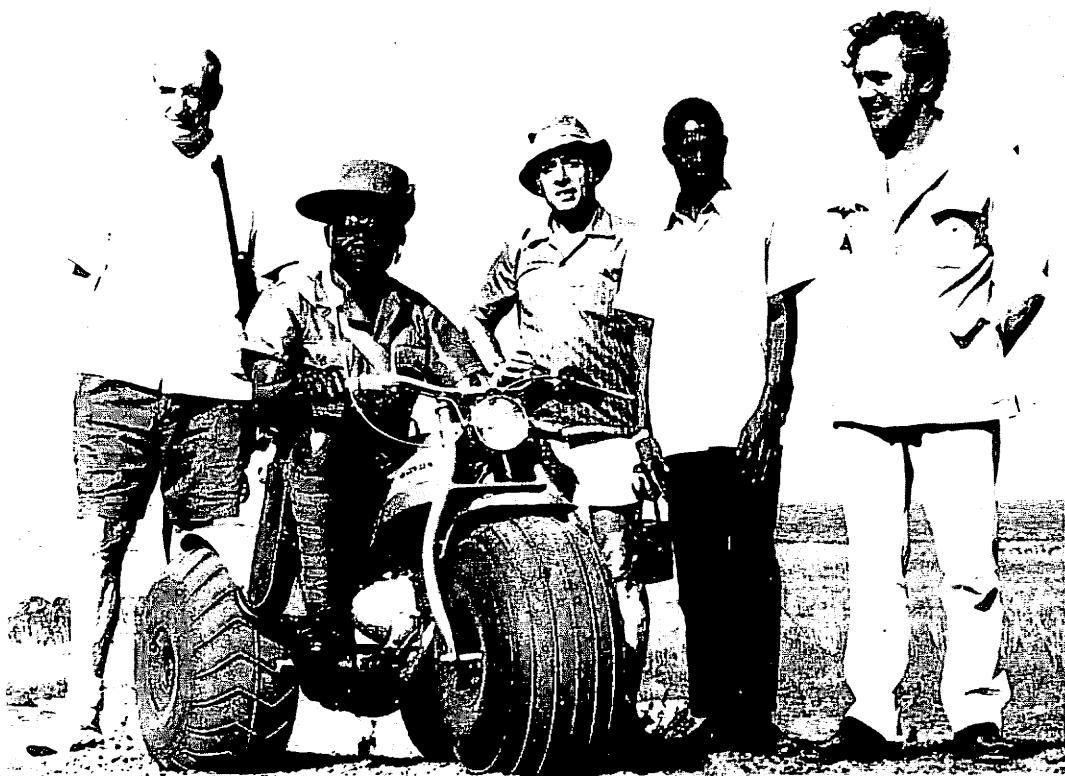
* (This was later named after Livingstone — subspecies *livingstonei* — by the zoologist P.L. Sclater);

In the interests of setting up a mission station somewhere north of Sesheke, Livingstone now organised a short trip up the river. Generally, he was at his best on trips of this kind, and this is no exception. The beauty of the river struck him, and he goes on: "The country adjacent to the river is rocky and undulating, abounding in elephants and all the other large game, except leches (lechwes) and nakongs (perhaps waterbuck), which seem generally to avoid stony ground." Much farther up the river, near present-day Kalabo, he noted that, "The numbers of large game above Libonta (Libonda) are prodigious, and they proved remarkably tame. Eighty-one buffaloes defiled in slow procession before our fire one evening within gun-shot; and herds of splendid elands stood by day without fear at two hundred yards distance. They were all of the striped variety, and with their forearm markings, large dewlaps, and sleek skins, were a beautiful sight to see. The lions here roar much more than in the country near the lake, Zouga and Chobe....Wherever the game abounds, these animals exist in proportionate numbers. Here they are frequently seen, and two of the largest I ever saw seemed about as tall as common donkeys; but the mane made their bodies appear rather larger."

Having established that no missionary settlement was possible in this area, Livingstone returned to Sesheke and Linyanti and began preparations for his trip to the west coast. This was soon organised, and by 19th November 1853 Livingstone was back in Sesheke with his 27 Makololo porters, ready to set out for Loanda.

Once again, the thrill of setting out on a journey is apparent in the vivid description of the riverine bird life:

"In passing along under the overhanging trees of the banks, we often saw the pretty turtle-doves sitting peacefully on their nests above the roaring torrent. An ibis had perched her home on the end of a stump. Her loud, harsh scream of "Wa-wa-wa", (=hadeda ibis) and the piping of the fish-hawk, are sounds which can never be forgotten by any one who has sailed on the rivers of 20° south. If we step on shore, the *Charadrius caruncula*, a species of



G. R. Hampshire

Left to right:
 Lt. Col. Critchley, Wildlife Guard
 Daka, Mr. R. Carruthers, Chairman of the Lusaka
 Branch and Mr A. Daka, who will normally be in charge of the
 machine, and who is shown in the picture.

Novel anti-poacher weapon for Blue Lagoon

On Saturday May 19, 1973, a small group of members of the Lusaka Branch visited Blue Lagoon, home of Lt Col and Mrs R. Critchley, to support the handover to Lt Col Critchley by Carlo Comana of Lusaka Honda Ltd, of a rather special breed of motor bike.

The bike — if this is the correct description — may be remembered by some readers who are cinema fans, because they were featured in a James Bond film.

For those who are not familiar with the layout the accompanying illustration will convey a far better picture than I can with words. The most incredible thing about it is that it is powered with only a 98 cc engine and that is so tiny that it has to be looked for! The tyres are some 10 inches wide and about 20 inches in diameter with a pressure of a mere two to two and a half pounds per square inch.

The members of the Branch who travelled to Blue Lagoon went by road, but Carlo Comana arrived in great style, bringing his family and Judy and Brian Preston with him in his own aircraft.

After a preliminary check of the causeway — which is now completed — during which we saw a pack of wild dogs who readily posed for photographs, we spent a very enjoyable hour or so in the house with Erica and Ronnie, enjoying the hospitality for which they are rightly noted.

Lunch over, we climbed into cars and proceeded to the end of the causeway, the bike being taken down the three-mile long road under its own power. As we approached the large turning area at the end, a small herd of buffalo were seen about half a mile away, but the noise created by our small caravan disturbed them and, before we came to a halt, they were well beyond camera distance and almost hidden in the long grass of the flats, even from those of us who had binoculars.

The handover was made to Lt Col Critchley by Mr Comana in the presence of Richard Carruthers, Chairman of the Lusaka Branch and Mr A. Daka, who will normally be in charge of the machine, and who is shown in the picture.

Also present at the small ceremony were Erica Critchley, Mrs Comana, Bob and Bunny Hampshire, Mike Bingham, Jo and Mike Wadmore and Mr E. C. Moonga, wildlife guard based at Blue Lagoon, and Judy and Brian Preston.

After the handover, Carlo Comana gave a most impressive display of the machine's capabilities, which included a ride through a marshy pond in which a crocodile was said to be residing and, as a finale, a climb back to the top of the causeway.

At this point the causeway is some 25 or 30 feet above the flats and the slope is at least 45 degrees if not more. I am sure Carlo will forgive me when I say that he is not a lightweight, but his ride up that bank was as surprising to us as when he first mounted it and rode straight over the edge to the flats below.

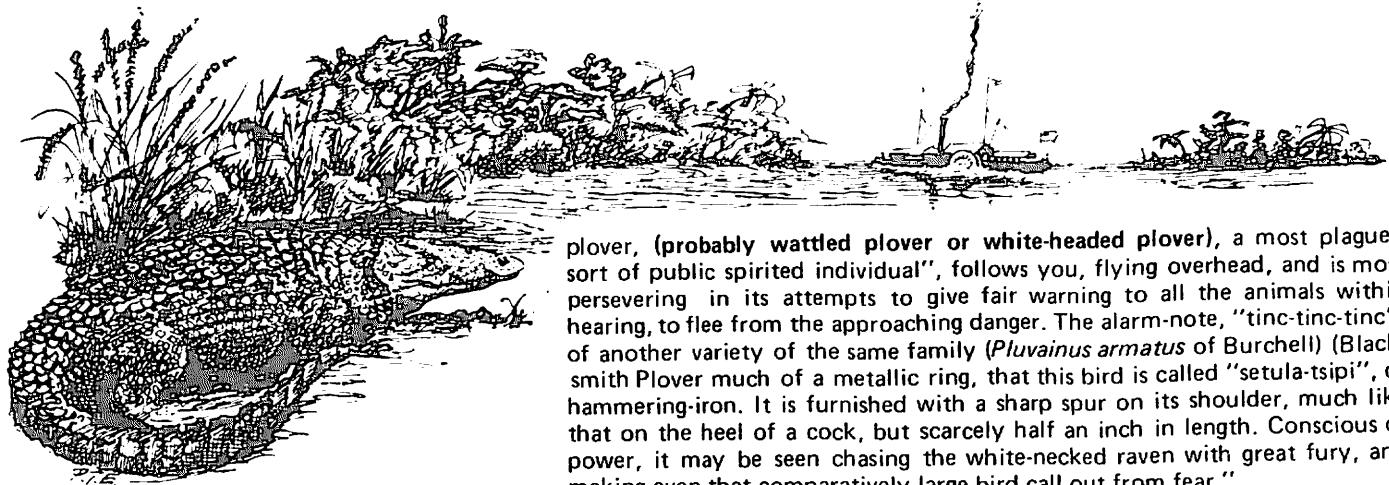
After we returned to the house, Wildlife Guard Daka was given a few moments instruction on what to do and how to do it and only a moment or two later was riding around Blue Lagoon as if he had spent years riding one of these incredible machines.

And so ended a most enjoyable day, and it only remains to say that the machine will be on display at the Lusaka Agricultural Show, on the Lusaka Branch stand — in other words, at the Zoo, and to say a very sincere 'thank you' to Mr Comana for his very kind gift from the members of the Lusaka Branch.

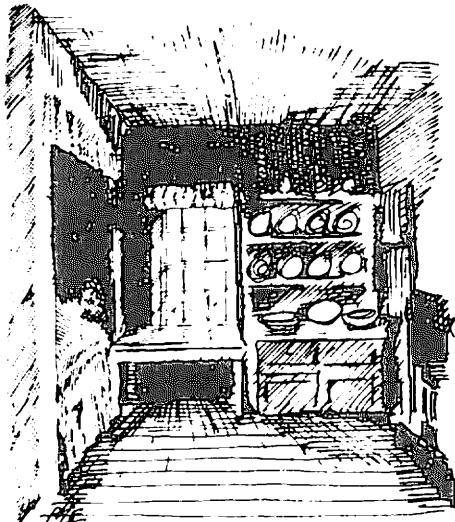
GRH

STOP PRESS

Two poachers have been caught at Blue Lagoon by Mr Daka, using the Honda.



The famous steam launch "MA ROBERT" - the native name for Mrs. Livingstone (Mother of Robert - her eldest son). This boat was specially designed for navigation on the Zambezi and was shipped over from England in sections.



Sketch of the room in which Livingstone was born. (from an old print)

plover, (probably wattled plover or white-headed plover), a most plaguey sort of public spirited individual", follows you, flying overhead, and is most persevering in its attempts to give fair warning to all the animals within hearing, to flee from the approaching danger. The alarm-note, "tinc-tinc-tinc", of another variety of the same family (*Pluvainus armatus* of Burchell) (Blacksmith Plover much of a metallic ring, that this bird is called "setula-tsipi", or hammering-iron. It is furnished with a sharp spur on its shoulder, much like that on the heel of a cock, but scarcely half an inch in length. Conscious of power, it may be seen chasing the white-necked raven with great fury, and making even that comparatively large bird call out from fear."

"Among the forest trees which line the banks of the rocky parts of the Leeambye, (Zambezi), several new birds were observed. Some are musical, and the songs are pleasant in contrast with the harsh voice of the little green, yellow-shouldered parrots of the country, (Meyer's parrot). There are also great numbers of jet-black weavers, with a yellowish-brown band on the shoulders. (yellow-mantled whydahs?).

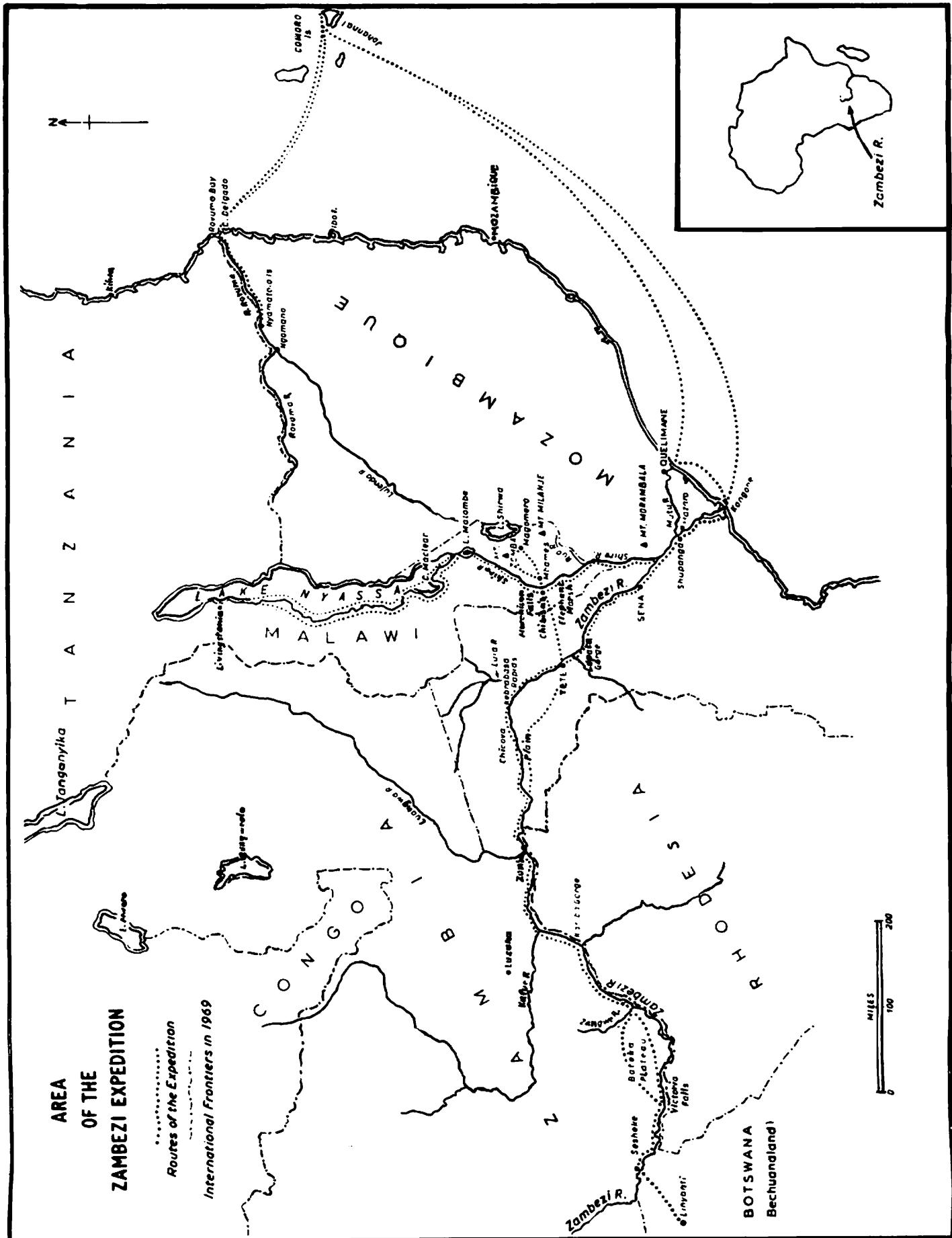
"Here we saw, for the first time, a pretty little bird, coloured dark blue, except the wings and tail, which were of a chocolate hue (probably lilac-breasted roller). From the tail, two feathers are prolonged beyond six inches. Also, little birds coloured white and black, of great vivacity, and always in companies of six or eight together, and various others (probably bronze mannikins). From want of books of reference, I could not decide whether they were actually new to science.

"Francolins and guinea-fowl abound along the banks; and on every dead tree and piece of rock may be seen one or two species of the web-footed *Plotus*, darter, or snake-bird (i.e. darter and reed cormorant). They sit most of the day sunning themselves over the stream, sometimes standing erect with wings outstretched; occasionally they may be seen engaged in fishing by diving, and, as they swim about, their bodies are so much submerged, that hardly anything appears above the water but their necks. Their chief time of feeding is by night, and, as the sun declines, they may be seen in flocks flying from their roosting-places to the fishing grounds. This is a most difficult bird to catch when disabled. It is thoroughly expert in diving, - goes down so adroitly and comes up again in the most unlikely places, that the people, though most skilful in the management of the canoes, can rarely secure them. The rump of the darter is remarkably prolonged, and capable of being bent, so as to act both as a rudder in swimming, and as a lever to lift the bird high enough out of the water to give free scope to its wings. It can rise at will from the water by means of this appendage."

"The fine fish-hawk (fish eagle) with white head and neck, and reddish-chocolate coloured body, may also frequently be seen perched on the trees, and fish are often found dead, which have fallen victims to its talons. One most frequently seen in this condition is itself a destroyer of fish. It is a stout-bodied fish, about fifteen or eighteen inches long, of a light-yellow colour, and gaily ornamented with stripes and spots. It has a most imposing array of sharp, conical teeth outside the lips - objects of dread to the fisherman, for it can use them effectually (tiger fish). One, which we picked up dead, had killed itself by swallowing another fish, which, though too large for its stomach and throat, could not be disgorged."

By 30th November they had reached the Ngonye Falls. Progress was slow now, and tiring. They passed present-day Senanga and carried on up the Flood Plain. Livingstone always noted what he saw, and on the river the only animals he saw, apart from the hippos, were the birds: "These perpendicular banks afford building-places to a pretty bee-eater (which he identifies in a footnote as the European* and the white-fronted*), which loves to breed in society. The face of the sandbank is perforated with hundreds of holes leading to their nests, each of which is about a foot from the other..... A speckled kingfisher (pied kingfisher) is seen nearly every hundred yards, which builds in similar spots, and attracts the attention of herd-boys, who dig out its nest for the sake of the young. This, and a most lovely little blue-and-orange kingfisher, are seen everywhere along the banks (probably malachite kingfisher) dashing down like a shot into the water for their prey. A third, seen more rarely, is as large as a pigeon, and is of a slatey colour" (giant kingfisher).

* This must be an error, is more likely carmine.





THOMAS BAINES
Artist - Explorer

Note: There are many fine examples of Baines work in Cape Town which I had the opportunity to see for myself en-route home. P.

Baines accompanied Livingstone on his first expedition.

Libonda was "the last town of the Makololo" and they stopped there a few days. Once north of it they "found the country abounding in animal life of every form". He notes: "There are upwards of thirty species of birds on the river itself. Hundreds of the *Ibis Religiosa* (sacred ibis) come down the Leeambye with the rising water, as they do on the Nile; then large white pelicans (openbill stork) in flocks of three hundred at a time....clouds of a black shell eating bird, called linongolo (*Anastomus lamelligerus*); also plovers, snipes, curlews, and herons, without number".

(Roberts (1940) in his "Birds of South Africa" mentions Livingstone's records of openbill storks breeding on the Upper Zambesi).

That Livingstone was keen to bring the wonders of the animal world of Africa to his Victorian readers can be seen in the amount and the quality of his reference to the flora. Whether or not this was a deliberate ploy to interest his countrymen in Africa is debatable; however, it seems unlikely because even when writing for himself and not public consumption he went into just as much detail. Writing in his travels (1857) about the Zambezi he allows the bird life in particular plenty of space.

"Then those strange birds the scissors-bills (African skimmers) with snow white breast, jet-black coat and red beak, sitting day by day on the sand-banks the very picture of comfort and repose. Their nests are only little hollows made on these sandbanks, without any attempt at concealment; they watch them closely, and frighten away the marabou and crows from their eggs by feigned attacks at their heads. When man approaches their nests, they change their tactics, and, like the lapwing and ostrich, let one wing drop and make one leg limp, as if lame....They have great affection for their young, its amount being increased in proportion to the helplessness of the offspring."

"There are also numbers of spoonbills, nearly white in plumage; the beautiful, stately flamingo; the Numidian crane or demoiselle....There are two cranes besides - one light blue (wattled crane), the other also light blue (probably crowned crane) but with a white neck; and gulls (*Procellaria*) of different sizes abound.

"One pretty little wader, an Avocet, appears as if standing on stilts, its legs are so long; and its bill seems bent the wrong way, or upwards." As he so often does, he rounds off this little list of birds with a more generalised piece of natural philosophy:

"Water-birds, whose prey or food requires a certain aim or action in one direction, have bills quite straight in form, as the heron or snipe; while those which are intended to come in contact with hard substances, as breaking shells, have the bills gently curved, in order that the shock may not be communicated to the brain."

He saw large numbers of geese, which are also the subject of a lengthy note:

"The Barotse valley contains great numbers of large black geese (spur-winged geese). They may be seen everywhere walking slowly about feeding. They have a strong black spur on the shoulder like the armed plover, and as strong as that on the heel of a cock, but are never seen to use them, except in defence of their young....There are also two varieties of geese, of somewhat smaller size, but better eating. One of these, the Egyptian goose or *Vulpanser*, cannot rise from the water, and during the floods of the river great numbers are killed by being pursued in canoes. The third is furnished with a peculiar knob on the beak...." (knob-billed duck)

At a point near the confluence of the Kabompo and the Zambezi the abundance of game impresses him so much that he drops into sentimentality, a most unusual thing for him: "It was grievous, however, to shoot the lovely creatures, they were so tame...There I lay, looking at the graceful forms and motions of beautiful pokus, leches, and other antelopes, often till my men, wondering what was the matter, came up to see, and frightened them away." Further on too, he is discussing the beauty of the birds' singing in comparison to that heard in England: "The notes here, however, strike the mind by their loudness and variety, as the wellings forth from joyous hearts, of praise to Him. The teachings of Dr. Dick, together with his own view of life, are clearly exhibited in this sentence.

Livingstone now passed north and westwards out of present-day Zambia, on his way to Loanda which he reached on 31st May, 1854. By July the following year he was back on the Zambezi, remarking on the hunting methods of the Barotse: "They stalk the animals by using the stratagem of a cap made of the skin of a leche's or poku's head, having the horns still attached....With these on, they crawl through the grass; they can easily put up their heads so far as to see their prey without being recognised until they are within bowshot."

At this point too, Livingstone had one of his rare brushes with wildlife, this time in the form of a solitary buffalo which charged him while he was

standing far from any shelter. In desperation he shot at the animal which fortunately swerved when very close to him, thus exposing its shoulder, which caught the shot and the animal bounded past mortally wounded. Previous to this in Bechuanaland (now Botswana) he had his famous encounter with the lion, and later on was to have one with a rhino. But these three are the only recorded times when Livingstone was in danger from animals.

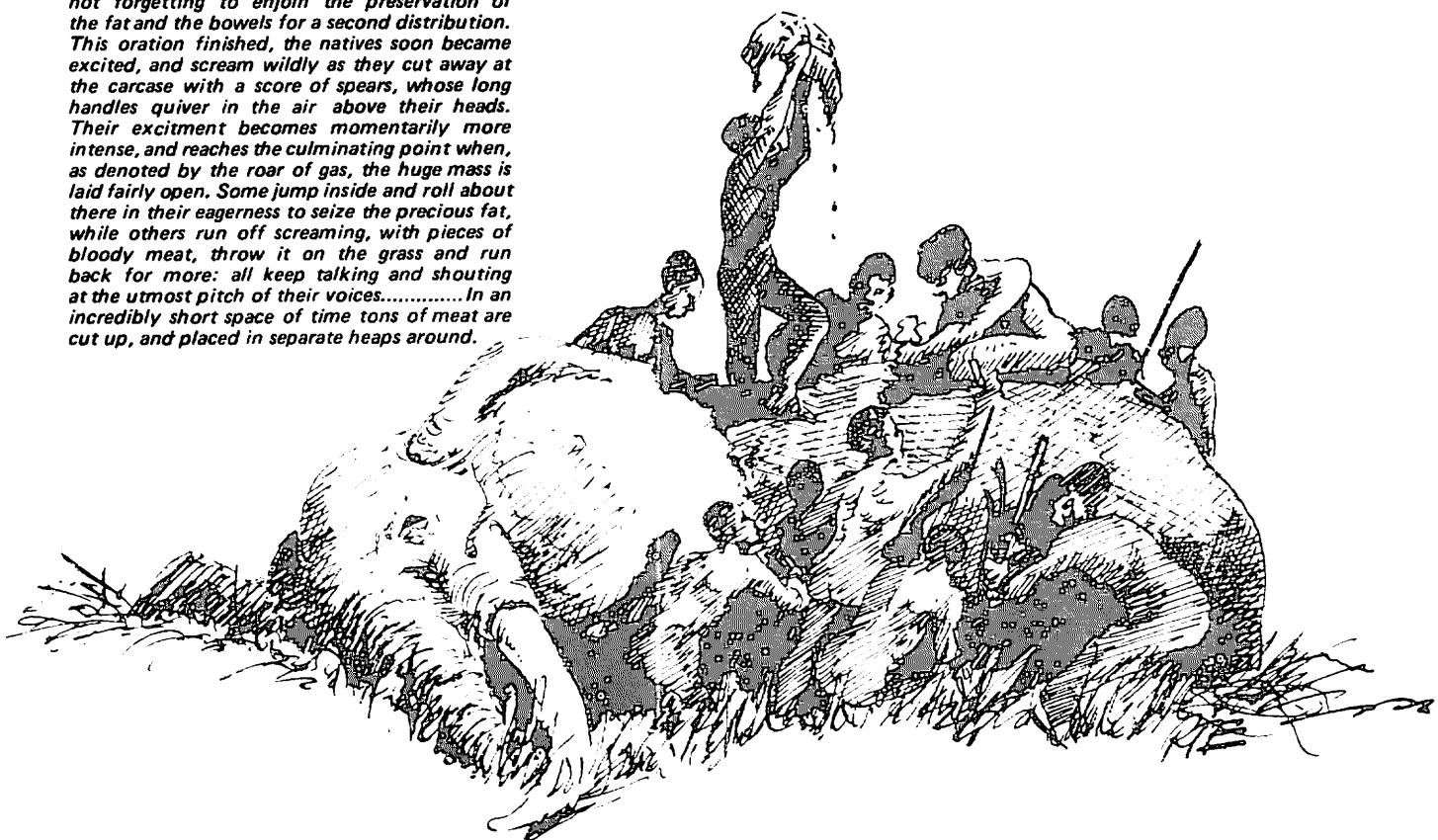
Having reached his base, Linyanti. Livingstone now made preparations for his trip to the east coast. On 3rd November 1855 he set out, and very shortly came upon the Victoria Falls. From there he travelled north eastwards. leaving the river on his right and, in general, leaving the present Livingstone-Lusaka road on the left. This took him across the "Batoka Highlands" as he called it, where he had thoughts about establishing a mission.

Crossing the Kalomo River they met "an elephant which had no tusks". There follows a lengthy bit of philosophy on the herd instincts of animals in general - the expulsion of dying or diseased animals from their herd: "It is intended by this instinct, that none but the perfect and healthy ones should propagate the species." He then carries on with the role of protection birds like the oxpecker: "The sight of the bird being much more acute than that of the buffalo, it is soon alarmed at the approach of any danger, and, flying up, the buffaloes instantly raise their heads to discover the cause, which has led to the sudden flight of their guardian." He correctly identifies the yellow and the red-billed oxpecker. Still in the same area he notes the honey-guide, and apparently asked of all 114 men with him what they knew about this bird. Only one had not been led to honey.

As they crossed the "Batoka Highlands" there is little mention of game. (Selous at a slightly later date found game scarce in this area). Once they approach the Kafue, however, several long passages appear, mainly to do with elephants. He had had time to observe these animals at length; the results are not unintelligent by any means:

"In estimating the amount of food necessary for these and other large animals, sufficient attention has not been paid to the kinds chosen. The elephant, for instance, is a most dainty feeder, and particularly fond of certain sweet-tasted trees and fruits. He chooses the mohonono, the mimosa, and other trees which contain much saccharine matter, mucilage, and gum.

The cutting up of an elephant is quite a unique spectacle. The men stand round the animal in dead silence, while the chief of the travelling party declares that, according to ancient law, the head and right hind-leg belong to him who inflicted the first wound; the left leg to him who delivered the second, or first touched the animal after it fell; the meat around the eye to the English, or chief of the travellers, and different parts to headmen of the different fires, or groups, of which the camp is composed; not forgetting to enjoin the preservation of the fat and the bowels for a second distribution. This oration finished, the natives soon became excited, and scream wildly as they cut away at the carcase with a score of spears, whose long handles quiver in the air above their heads. Their excitement becomes momentarily more intense, and reaches the culminating point when, as denoted by the roar of gas, the huge mass is laid fairly open. Some jump inside and roll about there in their eagerness to seize the precious fat, while others run off screaming, with pieces of bloody meat, throw it on the grass and run back for more: all keep talking and shouting at the utmost pitch of their voices.....In an incredibly short space of time tons of meat are cut up, and placed in separate heaps around.





In the territory of the AJAWA, a slave-trading tribe, they were shown a 'Taming Fork'. "It is a piece of wood 4 or 5 inches thick and between 6 and 7 feet long, forked at one end and another slave carries the free end. At night, when tied by the other end to a tree, the slave is helpless. KAVUMO (the local chief) justified the chiefs selling people by saying only criminals and thieves or persons committing adultery are sold" (Journals) 85

He may be seen putting his head to a lofty palmyra, and swaying it to and fro to shake off the seeds; he then picks them up singly and eats them. Or he may be seen standing by the masuka (*vapaca*) and other fruit trees, patiently picking off the sweet fruits one by one. He also digs up bulbs and tubers, but none of these are thoroughly digested. Bruce remarked upon the undigested bits of wood seen in their droppings, and he must have observed, too, that neither leaves nor seeds are changed, by passing through the alimentary canal. The woody fibre of roots and branches is dropped in the state of tow, the nutritious matter alone having been extracted. This capability of removing all the nourishment, and the selection of those kinds of food which contain great quantities of mucilage and gum, accounts for the fact that herds of elephants produce but small effect upon the vegetation of a country - quality being more requisite than quantity. The amount of internal fat found in them makes them much prized by the inhabitants, who are all very fond of it, both for food and ointment. "It is interesting that in his opinion the elephants produce but small effect upon the vegetation presumably when they are unrestricted, as when he was there, it is almost certainly true. In the restricted state, as in the Luangwa Valley today, the result is quite different."

They crossed the Kafue and then turned and followed the river towards its confluence with the Zambezi. In this region, just east of the gorge, (Zambezi Valley) he recorded: "The plain below us, at the left of the Kafue, had more large game on it than anywhere else I had seen in Africa. Hundreds of buffaloes and zebras grazed on the open spaces, and there stood lordly elephants feeding majestically, nothing moving apparently but the proboscis. I wished that I had been able to take a photograph of a scene, so seldom beheld, and which is destined, as guns increase, to pass away from earth." How beautifully he expresses a sentiment which, though commonplace now, was distinctly uncommon during the last century. It was this kind of sympathy with animal life which distinguished him from other explorers and adventurers of his age. As they continue down towards the Zambezi he again mentions that, "Buffaloes, zebras, pallahs (impalas), and waterbucks abound, and there is also a great abundance of wild pigs, koodoos, and the black antelope (sable)." There was, along the north bank of the Zambezi, "a great abundance of game", for which, it should be noted, Livingstone was grateful, as he had a large party to keep supplied. On 14th January 1856 they reached the confluence of the Luangwa and the Zambezi, and on the 15th they crossed.

The Second journey 1860

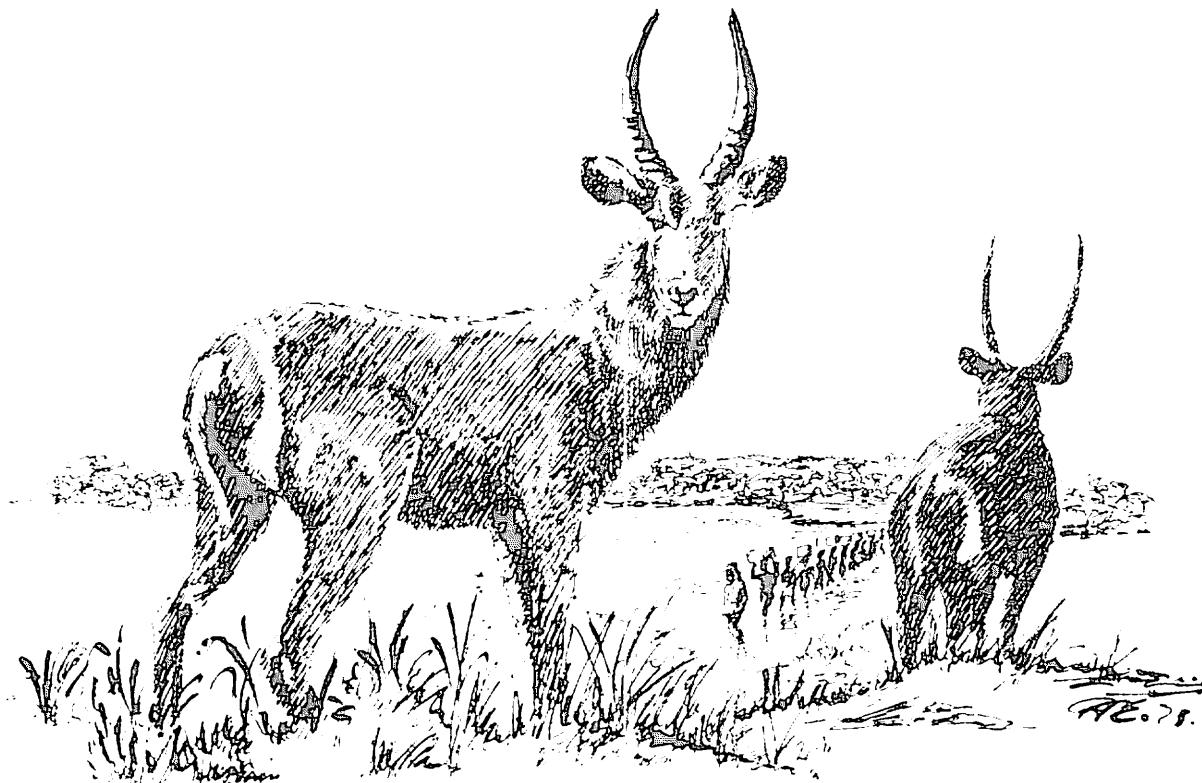
Livingstone's second visit to what is now Zambia began when he entered the country via Zumbo and Feira on 26th June, 1860. He was travelling to Sesheke to return to Sekeletu the Makololo men he had taken with him on his previous trip, in 1853. By Livingstone's standards it was a rapid trip; by 1st November he was back again in Zumbo, having marched to Sesheke, taken horse to Linyanti (60 miles south of Sesheke), returned to Sesheke and then marched and paddled down river to Zumbo. The party consisted of about 60 persons in all, including Dr. Kirk and his brother Charles.

Marching westwards from Feira, along the bank of the Zambezi, he remarks: "Game was extremely abundant, and there were many lions." He philosophises a bit on how lions like wild pigs and zebras, and then shortly that tsetse flies are common and annoying. As on almost all of Livingstone's expeditions, the staple diet was buffalo, varied by antelopes. Hyaenas gave them a regular escort and bring forth a bitter remark: "They are, fortunately, arrant cowards and never attack either men or beasts, except when they can catch them asleep, sick, or at some other disadvantage."

His famous account of the honey-guide is too well known to bear repetition here, but at the end his curiosity takes over: "Has this peculiar habit of the honey-guide its origin, as the attachment of dogs, in friendship for man, or in love for the sweet pickings of the plunder left on the ground?" This leads him on to the function of guardian-birds on rhinos and buffalo. From there he develops the idea of a built-in escape mechanism in predators; the rattle-snake rattles at the moment of killing; the cat wags its tail, thereby giving its victim a chance to escape.

Going was good, and on 6th July they reached the Chongwe River, at its confluence with the Zambezi. Between Feira and the Chongwe River he mentions guinea-fowls, francolins, turtle-doves, ducks and geese; there were pallahs, (impalas) (*Aepuceros melampus*), water bucks, kudu, elephants, zebra, waterbuck, and wild pigs (warthog) which, he remarks, "walk about during the day". One day they shot at a buffalo for meat, but succeeded only in

**But there is evidence of fluctuations in elephant numbers in the past at a time when there was no 'restriction'. There may well be cycles of abundance of elephant and food trees.*



wounding it. He continues "...but, as it is a matter of great danger to follow a wounded buffalo, we hold our way. It is the losing of wounded animals which makes firearms so annihilating to these beasts of the field, and will in time sweep them all away."

He describes evening: "A new world awakes and comes forth, more numerous if we may judge, by the noise it makes, than that which is abroad by sunlight. Lions and hyaenas roar around us, and sometimes come disagreeably near....Strange birds sing their agreeable songs, while others scream call harshly as if in fear or anger.... A little lemur (night ape) was once seen to leap about from branch to branch with the agility of a frog; it chirruped like a bird and is not larger than a robin redbreast. Reptiles, though numerous, seldom touched us....."

"Grass-burning has begun, and is producing the blue hazy atmosphere of the American Indian summer, which in Western Africa is called the 'smokes'. Miles of fire burn on the mountain-sides in the evenings, but go out during the night. From their height they resemble a broad zigzag line of fire in the heavens."

Near the confluence of the Chongwe and the Zambesi, Dr. Livingstone had one of his rare encounters with wild animals: "Here we got separated from one another and a rhinoceros, with angry snort, dashed at Dr. Livingstone as he stooped to pick up a specimen of the wild fruit morula; but she strangely stopped stock-still when less than her own length distant, and gave him time to escape; a branch pulled out his watch as he ran, and turning half round to grasp it, he got a distant glance of her and her calf still standing on the self-same spot, as if arrested in the middle of her charge by an unseen hand.

The Doctor usually went unarmed before this, but never afterwards."

At about the same place they must have met a pack of wild dogs, as he gives a very accurate account of their hunting methods, (at that time they were called *Hyaena venatica*). Here too they shot an eland for provisions, and Livingstone takes the opportunity to observe that the Africans "have a prejudice against the fat of the eland, the pallah, the zebra, hippopotamus, and the pig" on the grounds that it causes "ulcers and leprosy". A buffalo clearly impressed him here also, for he says: "...the horns after making a complete circle had commenced a second time."

On the 11th July Livingstone and his party were ferried across the Kafue at its confluence with the Zambesi. He records:

"When abreast of the high wooded island of Kalabi we came in contact with one of the game-laws of the country, which has come down from most an-

cient times. An old buffalo crossed the path a few yards in front of us; our guide threw his small spear at its hip, and it was going off scarcely hurt, when three rifle balls knocked it over. 'It is mine' said the guide. He had wounded it first, and the established native game-law is that the animal belongs to the man who first draws blood; the two legs on one side, by the same law, belonged to us for killing it."

In the vicinity of the Kariba Gorge he records flocks of numidian cranes (presumably crowned cranes). He was not always able to put names on birds: "A pretty little black bird, with white shoulders, probably a weaver, but not seen elsewhere, sat on the topmost twigs of huge trees, pouring forth its melody as if glad..." He also talks of "wydah-birds and waterwagtails" (cannot be identified for sure) which are held sacred by the natives of different parts.

Whenever Livingstone travelled in Africa the common method of barter was either in men, or guns, or ivory. Of the three no doubt ivory was the least harmful. On the other hand, it did not augur well for the elephant population, and Livingstone was always aware of the long-term effects this trade in ivory might have: "Seabenco, the chief we found in the Tyoto rivulet, had accompanied us some distance over the undulating highland plains; and as he and our own men needed meat, we killed an elephant. This, unless one really needs the meat, or is eager for the ivory, can scarcely be looked back to without regret. These noble beasts, capable of being so useful to man in the domestic state, are, we fear, destined, at no distant date, to disappear from the face of the earth."

There then follows a lengthy note on the importation of tusks to England. Over an eight-year period from 1856-1863, an average of 536 tons a year was imported into England. About two thirds of this came originally from Africa. The average weight per tusk was, he reckoned, 30lbs, and this "would imply the annual slaughter of 20,000 elephants a year."

On the other hand, Livingstone had travelled too much in Africa not to be aware of a different side of the elephant problem:

"A herd of elephants makes sad havoc among the trees, which cover the highlands only in patches. They break off great branches as easily as we could snap the shoots of celery; they often break down good-sized trees in the mere wantonness of strength, without even tasting them." Here he was contradicting an earlier statement that elephants "produce but small effect upon the vegetation"

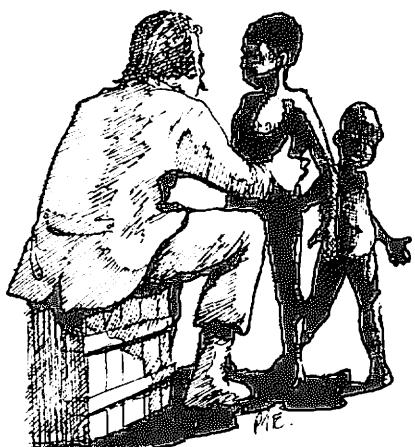
As they approached the Victoria Falls he recorded: "Two days' march from the Batoka village nearest the highlands, we met with some hunters who were burning the dry grass, in order to attract the game by the fresh vegetation which speedily springs up afterwards." (This is a long standing local practice). He also mentioned another local habit: "A small trap in the path, baited with a mouse, to catch spotted cats (*f. genetta*) is usually the first indication that we are drawing near a village."

They reached the Falls on 9th August. The area around the falls abounded with herds of wildebeest, lechwe, (unlikely "around the falls" - some miles upstream) puku, buffalo and waterbuck. "The pretty little tianyane or ourebi is abundant further on..." In and around the river, as now, there were hippos. He was clearly quite impressed by the amount of game around here.

On 27th September, six weeks later, Livingstone and his party left the Victoria Falls for the return journey. For the downward journey they used canoes, and it is noticeable that references to fish and riverine wildlife become more common. At Mpande's village, now merely a spot on Lake Kariba, he talked of "Beautiful crowned cranes" which were "beginning to pair". He noted spurwinged geese, Egyptian geese and knob-nosed geese. There were nests of carmine bee-eaters on the banks.

On the 19th October, in the vicinity of the present Kariba Dam, he saw: "Game in all kinds is in most extraordinary abundance, especially from this point to below the Kafue, and so it is on Moselekats's side (i.e. south bank) where there are no inhabitants. The drought drives all the game to the river to drink. An hour's walk on the right bank, morning or evening, reveals a country swarming with wild animals: vast herds of pallahs, many waterbucks, koodoos, buffaloes, wild pigs, (warthog) elands, zebra, and monkeys appear; francolins, guinea-fowls, and myriads of turtle-doves attract the eye in the covers, with fresh spoor of elephants and rhinoceroses, which had been at the river during the night.....A few miles below Chikumbula's we saw a white hippopotamus in a herd."

On 24th October they met the Portuguese Sequasha with his trading party. "He said that 210 elephants had been killed during his trip; many of his men being excellent hunters." Shortly after this meeting, on 1st November 1860 Livingstone arrived at Zumbo.



The Third journey 1866 - 73

On or around the 21st November 1866 Livingstone entered present-day Zambia on the third of his great African journeys. He entered via Mchinji, having come down from Pemba and round the southern end of Lake Malawi. Of the area round Mchinji and Chipata he wrote, "Large game abounds but we do not meet with it."

Passing north of modern Chipata he was soon recording sightings of elephant near the Sindile (Msandile) river. He continued northwestwards into the Mopane forests: "We used a game-path as long as it ran north, but left it when it deviated, and rested under a baobab tree with a marabou's nest — a bundle of sticks on a branch; the young ones uttered a hard chuck, chuck when the old ones flew over them. A sun-bird (scarlet-breasted sunbird), with bright scarlet throat and breast, had its nest on another branch, it was formed like a weaver's nest, but without the tube. I observed the dam picking out insects from the bark and leaves of the baobabs keeping on the wing the while; it would thus appear to be insectivorous as well as a honey-bibber. Much spoor of elands, zebras, gnus, kamas, (hartebeest) pallahs, buffaloes, reed-bucks, with tsetse, their parasites."

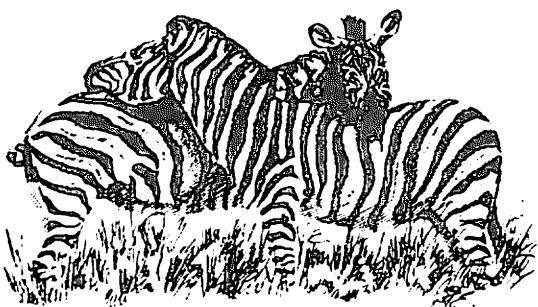
It is clear, from a quotation like the above, that Livingstone's powers of observation were nothing impaired. What does decrease noticeably, however, is the number of entries such as this. At 53 he had lost the early enthusiasm for recording facts about the wildlife. Other troubles, too, were pressing upon him, notably the problem of food other than game meat, and also the increasing problem of the dishonesty and unwillingness of his servants. This culminated two months later in the theft of his medicine-chest, an event which cast a shadow over his entire personality.

On the 13th December they met a river called the Tokosuzi, which it is reasonable to translate into Lukusuzi. Two days later they reached the Luangwa, in the region between the modern Nsefu and Luambe camps. There is no particular reference to animal life; difficulties encountered along the way occupy most space: "We went through a bushy country without paths and struck the Pamazi (Mupamadzi), a river 60 yards wide, in steep banks and in flood....difficult country, the river forcing us N.W.; I heard hippopotomi in it. Game is abundant but wild; we shot two puku antelopes here, called 'tsebulas', which drew a hunter to us who consented for meat and pay to show us a ford."

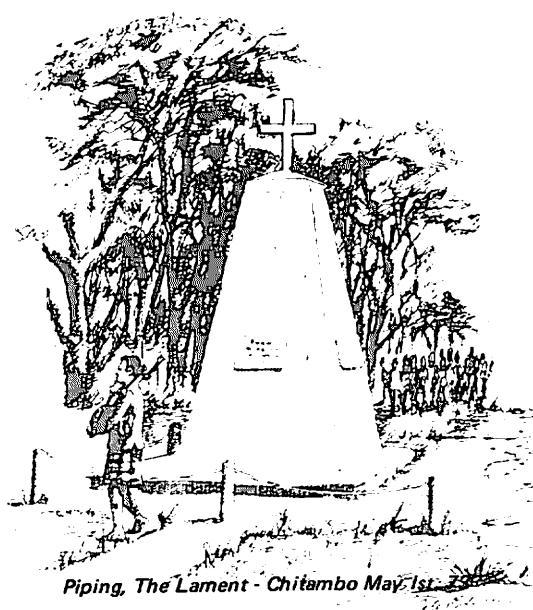
Livingstone was not at his best. He was in poor health and the country afforded little hospitality. They had nothing to accompany the meat and he remarks that a meat diet is "far from satisfying". Marching was down to 3-4 hours a day, though allowance should be made for the fact that this was the rainy season. "King-hunters (kingfishers) abound and make the air resound with their stridulous (sic) notes, which commence with a sharp, shrill cheep, and then follows a succession of notes, which resembles a pea in a whistle (probably Angola kingfisher). Another bird is particularly conspicuous at present by its chattering activity, its nest consists of a bundle of fine seed-stalks of grass hung at the end of a branch, the free ends being left untrimmed, and no attempt at concealment made (doubtless white-browed sparrow weaver). Many other birds are now active, and so many new notes are heard that it is probable that this is a richer ornithological region than the Zambesi. Guinea-fowls and francolins are in abundance, and so indeed are all the other kinds of game, as zebras, pallahs, gnus."

On 19th December he shot "a fine male kudu" and then on 20th they arrived at the Nyamazi (Munyamadzi) river, where he shot a bush-buck. He gives the impression that this area - the (Munyamadzi) corridor - was well stocked with game. However, there was little else to be thankful for; the people were hostile and food was scarce. Christmas Day was spent haggling for food. They pressed on northwards, passing to the east of modern Mpika: "We are on the northern brim....of the great Luangwa Valley we lately crossed". He continued along the line of the Muchinga Hills: "Buffaloes and elephants come here at certain seasons; at present they have migrated elsewhere." Over a week passes until the next animal entry: "I observed that the brown ibis, a noisy bird, took care to restrain its loud, harsh voice when driven from the tree in which its nest was placed...." (perhaps hadeda ibis)

The long march northwards to Lake Tanganyika dragged on. It was one of the least memorable in Livingstone's career. There were hardly any animals to be seen, and he speculates that the hopo method of hunting may account for this scarcity.* Not until after he had reached Lake Tanganyika did he begin to make reference again in his journal to wildlife: "Many animals, as elephants tohetsis, zebras, and buffaloes, graze on the long sloping banks". Soon again



*This was the method of driving the animals against a long fence or into a stretched net, and then killing them wholesale.



Piping, The Lament - Chitambo May 1st.

In April 1873 Livingstone died at Chitambo. He spent the last four days of his life in a hut of reeds, grass and sticks built for him by his servants. He was very cold and asked his servants to put more grass on the roof. They found him dead early the next morning having died on his knees whilst praying.

Ref. "Livingston in Africa"
by Denis Judd
Weyland Publishers Ltd.

Drawing from an engraving in the above book.

he says that the plains near Lake Mweru are "full of large game". Whilst at that lake he records the names of 39 varieties of fish, and then later: "I saw pure white-headed swallows (*Psalidoprocne albiceps*) (white headed roughwing) skimming the surface of the Chungu as we crossed it". In the vicinity of the Lake too he notes: "Birds, as the dongo shrike and a bird very like the grey linnet, with a thick reddish bill, assemble in very large flocks now that it is winter" (perhaps red-billed quelea) (13th June, 1868).

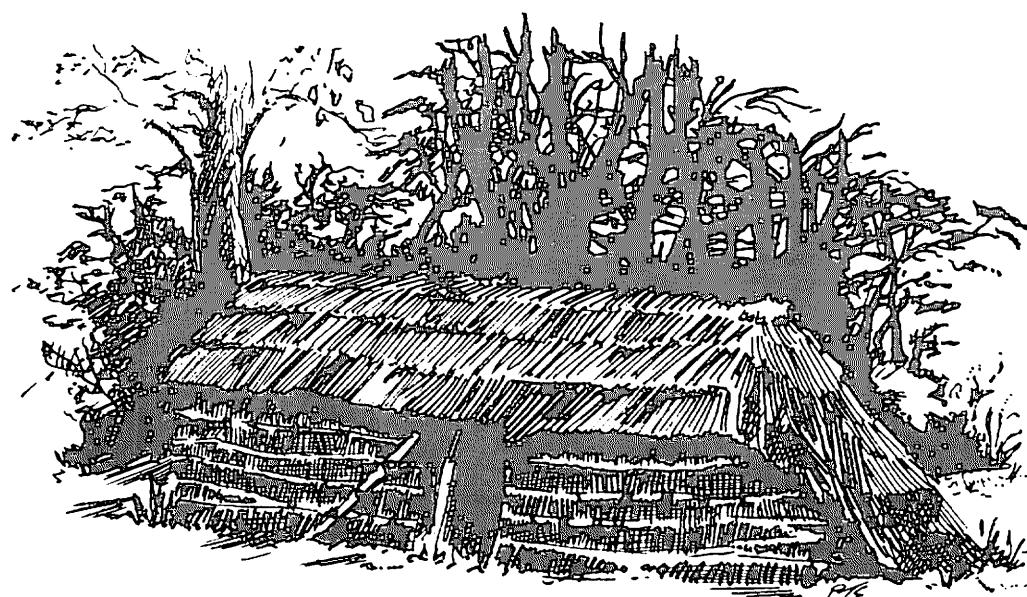
Six months elapse before the next significant animal observation, in the region of the modern Kawambwa: "The black and white, and the brownish-grey water wagtails are remarkably tame. They come about the huts and even into them, and no one ever disturbs them. They build nests about the huts." Again, at the southern end of Lake Tanganyika he wrote: "...down some of these rocks come beautiful cascades, and buffaloes, elephants, and antelopes wander and graze on the more level spots, while lions roar by night."

Livingstone now passed northwards up the lake and did not return to modern Zambia until over four years later when he came back down the east side of the lake, a dying man. He crossed the Kalambo River on 10th November, 1872, missing the famous falls by only a couple of miles. He was old and weak and frequently having to be carried; yet his journey still shows an eye as watchful and observant as ever. References to birds are more frequent than ones to animals, a trend which one notices in the journals of his final years.

The remaining months of his life contain two references to the fish-eagle which, by any standards, are memorable. It seems almost fitting that this bird, of all African birds, should have intruded upon the dying man's sensibilities. On Sunday 30th March he wrote: "Sunday: a lion roars mightily. The fish-hawk utters his weird voice in the morning, as if a friend at a great distance." And again, on 14th April, just east of Chitambo's village he wrote: "...the fish-eagle lifts up his remarkable voice....Once heard his weird unearthly voice can never be forgotten...It seems as if it were calling to some one in another world."

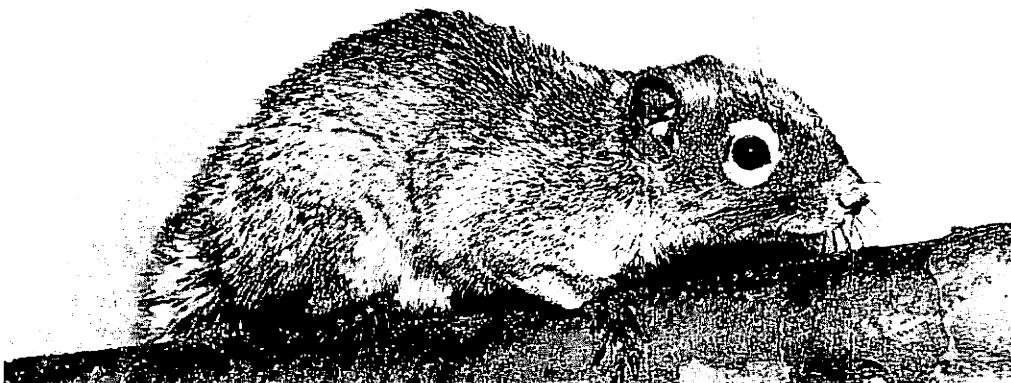
Of the notes that Livingstone made in Zambia one or two things should be said. In general, there is nothing remarkable; no new or unknown facts have been discovered. That animals were more abundant then than now could be easily deduced. On the other hand, he was the first systematically to note down the animals and birds of the country, and in doing so he 'discovered' several species, in particular the puku. Again, in view of the fact that recording the animal life was not his avowed task, he did unbelievably well. Further, it should be borne in mind that he was restricted in his thought by the very philosophy which gave him strength to carry on.

Of the man himself it should be said that his dealings with and writings about animals are dominated by two things: curiosity and sympathy. He applied these two wherever he was and with whoever he was dealing. He regarded all creatures as manifestations of God's power, and, as such, worthy of respect.



The Zambian "mystery squirrel" at the London Zoo.

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A squirrel mystery

by W.F.H. Ansell

This is the curious story of an animal which for several years remained something of a mystery to the London Zoo, the British Museum (Natural History) and myself. In June 1964 a squirrel was taken to the London Zoo, together with two genets, by a Miss Bristowe, who had been living in the Kawambwa District before returning to U.K. The squirrel could not be identified with any of the Zambian species, nor for that matter with any other. It was about the same size as our *Paraxerus cepapi*, but rather brighter in colour, and the tail appeared more bushy, while the hands and feet were very distinctive, being dark iron grey above, with the fingers and toes black. The whitish eye ring was very prominent. I was in London early in 1965 and saw the animal myself, as I also did on subsequent occasions. A colour film of it was shown at the Zoo in March 1965, and Dr. Harrison Matthews suggested the possibility of some practical joker having altered the label, and that the squirrel was not from Africa at all. The joke aspect was not seriously considered likely, but the suggestion that it was not an African species, though made light-heartedly at the time, eventually proved correct.

Because Miss Bristowe had been living in the Kawambwa District it had been assumed that the squirrel had come from there, which raised the interesting possibility that it might represent something (not necessarily a known species) having affinity with the lowland forest of the Congo, as there are several mammals found along the border areas with Zaire which are associated with the great forest bloc. So I sent my collector to the district to make enquiry and if possible get a specimen. He returned without squirrel, but said that he had managed to contact a man who claimed to have caught the animal near where the Kawambwa-Mporokoso road crosses the Musambashi stream. However, it turned out that this was one of the genets, and nothing to do with the squirrel.

In July 1965 I heard from Mr. R.W. Hayman, of the British Museum (Natural History), who had originally brought the animal to my notice, that he had managed to contact Miss Bristowe again, who had told him that she had not obtained it in Kawambwa District at all, but that it had been given to her by a Mr. Hinds of Luanshya only a few days before she flew to England. Later Mr. Hinds sent a letter to the London Zoo saying that the "original pair" was given to him a few years ago by a Mr. Bowmaker of Lusaka, who had since died. He also said that I had shown him a skin of a squirrel that he considered resembled the "mystery" squirrel. This was when Mr. and Mrs Hinds were passing through Fort Jameson (now Chipata) and the skin I had shown him was a *Paraxerus cepapi* from the Luangwa Valley, but it did not get us any further forward on the identity of the London Zoo animal, which had already been noted as similar in a general way to *P. cepapi*, e.g. in size, but different in other respects.

However, I now had something more definite to go on, and shortly afterwards managed to contact the late Mr. Bowmaker's daughter, a Mrs George of Lusaka, and her husband from whom I learned that her father used to keep squirrels, as other people might keep an aviary, and had bred a number of litters. When he died in 1962 the squirrel keeping came to an end, as no one else was interested. Mr. and Mrs George were unable to say whether he had ever obtained squirrels from elsewhere - as far as they knew all the original stock had come from their farm, Anniesdale, near Ngwerere siding, some 15 km from Lusaka. But, if this meant that we now had something more definite, it certainly lessened the chances that there might be an unknown species of Zambian squirrel, for the area is miombo woodland, considerably disturbed in many places, where the only squirrel to be expected is *Paraxerus cepapi*. I sent my collector, however, and he brought back four squirrel specimens, now in the British Museum (Nat. Hist.), which sure enough turned out to be *P. cepapi*. It was still a complete mystery where the blackfooted one in London had originated, or what species it was. And this is as far as it was possible to go in Zambia.

Mr. Hayman retired from the museum in 1967, but before leaving he stressed to the London Zoo authorities the importance of ensuring that the squirrel was sent there when it eventually died, though after three years it was still very healthy and in excellent fettle. But by this time there was a suspicion that it might be one of the Asiatic species, of the genus *Callosciurus*, and about the end of 1968, when again in London I discussed the matter with the curator of mammals, Dr. M.R. Brambell. The possibility was mooted of taking a cast of the squirrel's teeth, which might settle the question of its identity, though this was never done.

Eventually, in 1970 the squirrel died, and when the body was duly sent to the British Museum (Nat. Hist.) where Mr. J.E. Hill found that it was referable to the Thailand species *Callosciurus finlaysoni*, of which numerous sub-species have been recorded from Thailand, Indo-China and Burma. In colour it did not exactly match any of the known forms, but in any case *finlaysoni* is particularly variable in this respect, and the basic pattern agreed well enough. The skull, as well as another diagnostic anatomical feature, corresponded with *C. finlaysoni*.

So the mystery of the identity of Miss Bristowe's squirrel was finally solved. But the further mystery remains - how did it ever get to Zambia? The probable explanation would seem to be that the late Mr. Bowmaker had imported a pair through the pet trade, the survivor of which was eventually sent to London, though if he did so it was not known to his daughter and son-in-law, and cannot now be proved. The alternative explanation that there was a substitution somewhere en route seems far less likely.

I am grateful to Dr. M. R. Brambell for making available the picture of this squirrel.