

Serengeti National Park

A Guide

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SERENGETI
NATIONAL PARK

A Guide to your increased enjoyment

As the Serengeti National Park is nearly as big as Kuwait or Northern Ireland no-one, in a single visit, can hope to see more than a small part of it. If time is limited a trip round the Seronera valley, with opportunities to see lion and leopard, is probably the most enjoyable.

If more time is available journeys can be made farther afield, depending upon the season of the year and the whereabouts of the wildlife.

Visitors are welcome to get out of their cars in open areas, but should not do so near thick cover, as potentially dangerous animals may be nearby.

Please remember that travelling in the Park between the hours of 7 p.m. and 6 a.m. is not allowed, and PLEASE remember NO LITTER.

Make sure you have enough petrol in your tank before starting out.

June 1968.



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Introduction

The Serengeti National Park covers a very large area: 13,000 square kilometres of country stretching from the edge of the Ngorongoro Conservation Unit in the south to the Kenya border in the north, and from the shores of Lake Victoria in the west to the Loliondo Game Controlled Area in the east.

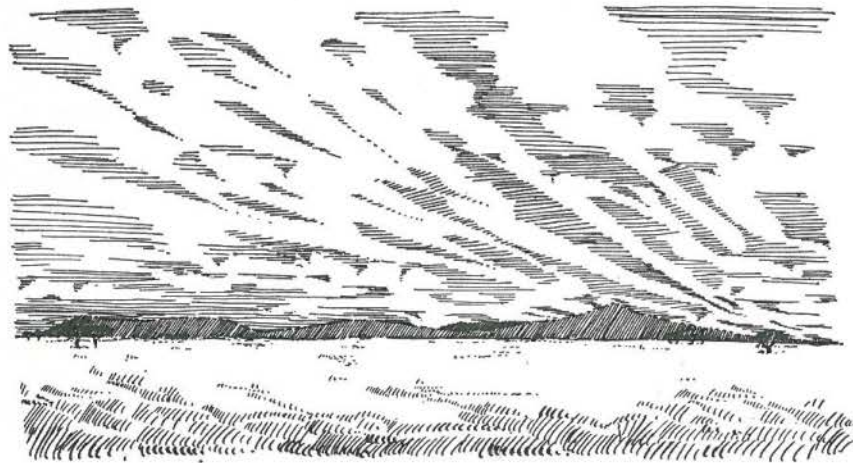
The name "Serengeti" is derived from the Maasai language but has undergone various changes. In Maasai the name would be "Siringet" meaning "an extended area" but English has replaced the i's with e's and Swahili has added a final i.

For all its size, the Serengeti is not, of itself, a complete ecological unit, despite efforts of conservationists to make it so. Much of the wildlife which inhabits the area moves freely across the Park boundaries at certain seasons of the year in search of food and water, and knows no other restrictions than those imposed by its own inherited behaviour patterns.

When entering the Park from the north or south there will be little or no apparent change in the environment as you cross the boundary. The interests of wildlife do not always have priority in a man-orientated world, and the conservationist can only add his voice, with no guarantee of success, to the general cry for improved amenities of all sorts. Nonetheless, it is greatly to the credit of the government of Tanzania that, weighing all possibilities in the balance, it has adopted, in setting aside the Serengeti as a National Park, such a far-sighted wildlife conservation policy.

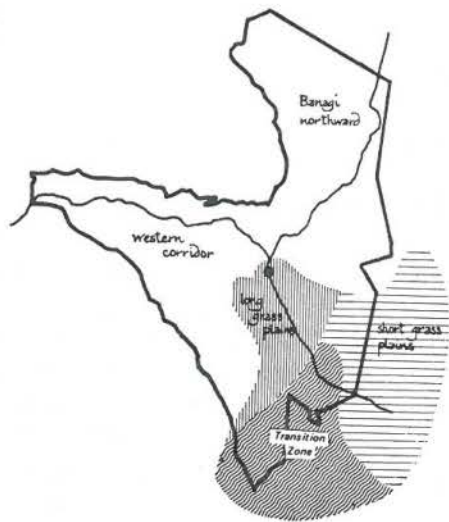
Having heard much of the world-famous Serengeti, you may be surprised, at certain times of year, to find large areas of the Park virtually devoid of animals. This is especially true if you enter from the south during the dry season. It is hoped that this booklet will, among other things, help to explain why this is so. It will also help to increase your enjoyment of a visit to the Serengeti by bringing to your notice some interesting information about the area and the animals which inhabit it. Knowing more about the Park will, we are sure, add to your pleasure and allow you to speak with more authority of what you have seen.

We wish you a rewarding visit.



The Park

The Serengeti National Park, the largest in Tanzania, lies in the high plateau country between the Ngorongoro highlands and the Kenya-Tanzania border. A corridor extends to within 8 kilometres of Speke Gulf on the shore of Lake Victoria, while to the eastward the boundary passes within 112 kilometres of the settlement of Loliondo. Altitudes range from 920 to 1,850 metres above sea level. Seronera, the Park headquarters, is at 1530 metres.



The Park is shaped somewhat like the blade of a tomahawk with its edge pointing eastwards. Seronera, the Park headquarters, is 317 kilometres from Arusha and 416 from Nairobi via Keekorok. Access from the east is virtually non-existent; but a dry-weather earth road joins Seronera to Musoma and Mwanza to the west. The north-south road linking the Park to Nairobi and Keekorok in Kenya and Ngorongoro Crater, Lake Manyara and Arusha in Tanzania is, of course, the main tourist route.

The principal features of the Park are the short and long-grass open plains in the south, the acacia savannah in the central area, the hilly, more densely wooded northern section, and the extensive woodland and black clay plains, dominated by the central ranges of mountains in the western corridor.

Throughout the whole Park there is a variety of plains, rivers, lakes, hills and rock outcrops, each of which has its own particular 'atmosphere' and range of wildlife.

Wild animals and birds are often thought of as being free to wander where they will, but this is almost invariably not the case. Each creature, through long evolutionary processes, has developed in such a way that it is tied to its own special habitat more closely than a stockbroker to his desk. Flamingoes must have saline lakes in which to feed or they do not survive; giraffe must have acacia trees from which to browse and impala rely on scrub country for both browse and protection. The predators are also, in their turn, tied down by availability of prey species, so you can expect to see quite a different community of wildlife in each main ecological area you visit. A perfect example of this, because it is so clear cut, is the rock outcrop or inselberg, locally known by the Afrikaans word 'kopje' (pronounced cop-ee), which is an island where an isolated, specialised habitat is found in a sea of open grassland. It is useless to look for colobus monkeys in the open plains or ostriches in dense bush. It is only after this is appreciated that you will get the best out of your visit to a wildlife area.

Nearly 500 species of birds have already been recorded in the Park, many of them European migrants which are present from October to April. These include European storks, cuckoos,

swallows, European rollers, Montagu's and Pallid harriers and Caspian plovers.

Park guides are limited in number, but should one be available you are advised to take him as he will know where to locate the various species of animals as well as being able to direct you along the network of roads and tracks.

You are welcome to get out of your car in open areas after having made sure that there is no animal in the vicinity, but do not do so near any sort of wildlife as, however harmless they themselves may be, they may be in process of being stalked by lion or leopard. Beware also of getting out of your vehicle in or near thick bush as such country may harbour a variety of truculent creatures whose business it is to remain inconspicuous until the time is ripe to make their presence known. In any case, do not walk too far from your car.

History

Probably the first European to see the Serengeti was Baumann in 1892 when on a journey from the coast to Lake Victoria Nyanza via Manyara, the Ngorongoro Crater highlands and the Serengeti central plains, thereafter following the Orangi, Grumeti and Ruwana rivers to their outlet in the lake. Previous to this the area had been sporadically hunted over by the Ndorobo people and, in the dry season, by the Ikoma tribe of cultivators. There were no Maasai pastoralists in the area now known as the Serengeti National Park until about the turn of the century, when they started to use the area around the Moru kopjes.

About this time, when Tanganyika was under German rule, the Ikoma fort was built as an administrative centre. It was commanded by an army lieutenant, to whom it must have seemed a lonely enough spot as communication was either by runner or heliograph in those days.





In 1913 Stewart Edward White and R. J. Cunningham organised a hunting safari into the area, finding the wildlife very plentiful, especially lions which at that time were killed indiscriminately as 'vermin'. No elephants, however, were seen.

Meantime the first World War had broken out, with fighting flaring up from time to time between the Germans of Tanganyika and the British of Kenya. The Ikoma fort was attacked in 1917 by a force of the King's African Rifles from Kisii and, after shelling, fell to the British.

About 1920 an American, L. Simpson, reached Seronera in a model 'A' Ford, surely the first of a long stream of visitors to come to the area by car. Once the easy way had been pioneered the country was frequently visited, especially by professional hunters; from 1925 onwards they came in ever increasing numbers, mainly after lion for which the Seronera area had become justly famous.

So indiscriminate had been the killing that, in 1929, a 2330 square kilometre sanctuary was declared in which it was illegal to hunt without special licence from Captain M. Moore, V. C. who was placed in charge. This, however, was found to be inadequate and in 1937 the area was declared a total Game Reserve. Coinciding with the world-wide awareness of the need for wildlife conservation, a closed reserve was proclaimed in 1950, followed a year later by the award of National Park status.

At this time the present Ngorongoro Conservation Unit was part of the new Park, being known as Eastern Serengeti. As a result of the Pearsall Report, submitted to the Government in 1959, the Eastern Serengeti was excised from the Park and, as compensation, the present 'northern extension' and other areas were added.

Professor Grzimek and his son Michael did more than anyone else to put the Serengeti 'on the map', especially with their

best-selling book 'Serengeti Shall Not Die' and the immensely popular film of the same name which appeared in 1959.

Those familiar with Professor Grzimek's work will be pleased to hear of recent additions to the Park which include the Lamai wedge adjoining the Tanzania-Kenya border and a strip north of the Grumeti river in the western 'corridor' which, taken together, amount to a further 945 square kilometres.

The Short-Grass Plains

If you approach the Serengeti from the south-east your first view of the plains will be from the slopes of the Olbalbal escarpment. In front of you, northwestward, as far as the eye can see, stretch the open grasslands, to your right the ridges of the Gol mountains, behind you the Ngorongoro Crater highlands, and all around the wide skies of Africa.

As you drop down the escarpment you will see that the plains are covered with short grass, even at the height of the rainy season. These short-grass plains extend beyond Oldupai, where Dr. and Mrs. L.S.B. Leakey found the skulls of *Homo habilis* and *Zinjanthropus* man, across the boundary separating the Serengeti National Park from the Ngorongoro Conservation Area.

During the rainy season months from November through May, these plains are the feeding ground of a staggering number of animals: 350,000 wildebeest or white-bearded gnu, 180,000 Burchell's zebra, over half a million Thomson's and Grant's gazelle as well as ostrich, eland, topi, hartebeest and the predators, both great and small, who make it their business to follow the herds.

Because there is no permanent water in these short-grass plains and because the grass withers at the onset of the dry season, much of the wildlife can only subsist here when there is a supply of surface water lying in hollows and natural depres-

sions. This is particularly true of wildebeest and zebra, both of which need to drink regularly.

The predominant grass species here *Digitaria macroblephara*, a finger grass, *Sporobolus marginatus*, a dropseed variety, and a sedge of the *Kyllinga* species, are in marked contrast to the red oat-grass, *Themeda triandra*, which is found in the long-grass plains further north. Although referred to here as the long-grass plains the herbage does not grow taller than just over a metre and not, as with species of *hyparrhennia*, over one's head. During and just after the rains this area is notable for the carpets of wild flowers which cover the plain, and it is a common sight to see herds of zebra grazing in these fields of flowers, their black and white markings strongly contrasted against a purple or yellow background. The wild flowers of Africa, for the most part, are less obtrusive than those of Europe, but are there in profusion for those who look for them. It is only in certain places and at certain seasons that they become really obvious to the casual observer, especially the purple *Pluchea monocephala*, yellow crotalaris and a yellow daisy-like flower, *Hirpicium diffusum*. For a very short time during November, after the first few showers of the short rains have fallen, the short grass plains may be dotted with the short-stemmed, green-veined, white flowers of *Androcymbium melanthioides*. Although of only very short duration this is a most attractive sight.

Much in evidence along the roadsides during and soon after the wetter part of the year are the cornflower-blue flowers of the annual *Pentanisia ouranogyne*, which has a wide range throughout East Africa. Where the soil has been moved, as at the sides of the roads, wild flowers often find a foothold, possibly because the competition from the indigenous grasses is suppressed and also because of the run-off of rainwater from the road surface.



Wildebeest are to be seen throughout the Park at different times of the year but they will be described here because it is on the short-grass plains that both rutting and calving take place, and because they are massed in large concentrations while in this area. A later section of this booklet will be given up to a description of the famous Serengeti migration, and will cover the annual cycle of their movements.

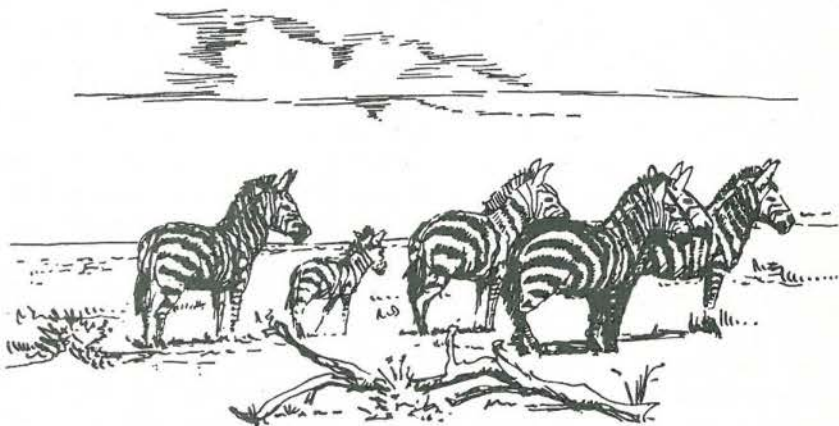
Although the wildebeest, the 'clown of the plains', looks rather cow-like it is in fact an antelope. There is no need for a detailed description of the animal here; no visitor to the Park will remain long in ignorance of what they are. Wildebeest are typical plains or light bush animals, shunning dense cover whenever possible. Both males and females are horned, but those of the males are heavier and more widely curved. Wildebeest (in Afrikaans literally 'wild cattle') are known as NYUMBU in Swahili. The scientific name is *Connochaetes taurinus*. An adult male Serengeti animal weighs about 180 kilos and stands 127 cms. at the shoulder. During the rutting period, usually in late May, the males set up a territory dominated by a stamping ground which consists of a small patch of earth from which the grass has been pawed away. At this time the male does all in his power to attract as many females as possible into his territory and, more important, keep them there until he has served them. As one would expect, there is strong competition for the females' favours, and a good deal of intrusion takes place with consequent poaching of females from the harem. Fights, usually not serious, between males are common at this time, the contestants getting down on their 'knees' in order to clash horns. Sometimes while this



is happening a third bull gathers the females into his own keeping leaving the combatants with nothing further to fight over. The females seem to show no preference one way or the other, but simply go where they are driven by the dominant male, their confusion being made more acute by the fact that, because the herds are constantly on the move, new stamping grounds and territorial boundaries are regularly being established.

As the gestation period is 240 days, the calves conceived at this time are dropped in January when the herds have returned to the short-grass plains after 5½ months in the dry-season grazing grounds in the north-west and north of the Park.

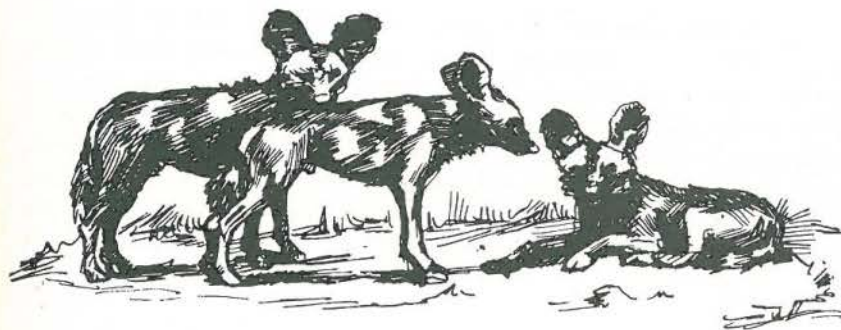
Burchell's zebra, *Equus burchelli*, although outnumbered two to one by the wildebeest in the Serengeti, are nonetheless very obvious participants in the migratory movement of the great herds. PUNDA MILIA (striped donkey) as he is known in Swahili, appears to the casual observer to move in large homogeneous groups, but in fact the zebra community is composed of many family units of about a dozen animals, each controlled by a dominant stallion, who may measure 12 hands (120 cms.) at the shoulder and weigh between 225 and 315



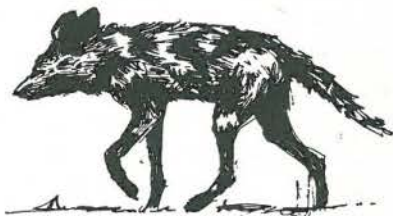
kgs. This species of zebra has much broader stripes than the Grevy's, only found in northern Kenya, and requires a less arid habitat. The stripes of the zebra (black stripes on a white ground or white stripes on a black ground?) are thought to be a form of cryptic colouration intended to mislead an attacking predator and can be compared to the dazzle camouflage at one time used by sailors to disguise their warships. Although zebra always seem sleek and well fed they are usually heavily infested with internal parasites, but are able to maintain health provided their general condition is good.

Characteristic of zebra, especially when on the move, is their yelping bark, not unlike that of a dog, which when blended with the blarting of the wildebeest comprises the typical sound of the migration in motion.

Despite the fact that there are probably too few predators in the Park, there is no doubt that while the great herds are in the short-grass plains they, and especially their young, are much harried by lion, hyena and packs of African hunting dogs. Wild dogs, as they are sometimes called, stand about 65 cms. at the shoulder and weigh between 27 and 36 kgs. In colour they are mainly blackish with rust-coloured and white patches. They have extremely strong jaws and large rounded ears. Unlike the true dogs they have only four claws on the fore feet, lacking the dew claw. At one time these creatures had a bad reputation as 'ruthless' killers and were often shot on sight by those who should have known better. There is no doubt that they are extremely efficient hunters, rarely allowing their intended prey to escape, but there is no evidence to suggest that they kill for any other purpose than to satisfy their hunger. Certainly, their manner of killing is gruesome to watch, but as their prey is probably in a state of deep shock at the time the process is no more cruel than in the case of other predators. Hunting is carried out by the pack varying from only a few to as many as forty dogs, as a concerted effort. The pack, hunting in silence, follows the herd unremittingly until an individual tires, whereupon, while one dog hangs on grimly to the muzzle, the remainder tear the animal open from the rear. As soon as it falls, all the pack moves in to feed.



Hunting dog pups, up to 16 in a litter, are born in earths in the open plain where they remain until they are large enough to join the adults in the hunt. These earths, as do the dogs themselves, smell very unpleasant. As soon as the pups are old enough to take solid food they are fed at the earth by the adults who regurgitate meat for them. As they grow older the pups come out farther and farther from the earth to meet the returning adults. As soon as they come together the pup pushes his nose into the corner of the adult dog's mouth in order to cause regurgitation. The greeting ceremony between adult dogs also makes use of this behaviour pattern, and it has been said that an adult dog, too lame to hunt, was kept alive by the other members of the pack by regurgitated meat. Once the pups are old enough to feed off the kill itself they are given priority by the adult dogs, who do not move in until the young ones have satisfied their hunger.

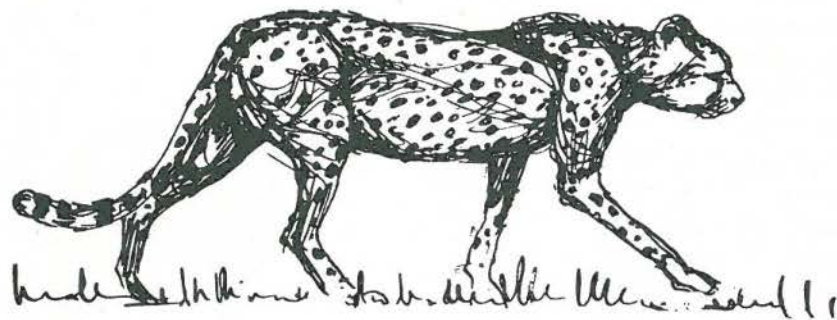


The previous treatment of wild dogs as vermin was particularly unfortunate as they have never been plentiful, appearing not to breed as successfully as might be expected. Nor do all the pups survive, as flooding of their earths during the rainy season is not infrequent. Canine distemper, a serious disease, also takes its toll.

Hunting dog, whose scientific name is *Lycyaon pictus*, are called MBWA MWITU in Swahili. They roam over vast distances in search of food.

Although cheetah, *Acinonyx jubatus*, DUMA in Swahili, is to be found throughout those parts of the Serengeti which are not too heavily wooded, it is likely to be seen on the short-grass plains either singly or in pairs. The cheetah, which is sometimes mistaken for a leopard, is a lighter-built animal, although much the same general size, and can be distinguished by the dark 'tear marks' which almost join the corners of the eyes to the corners of the mouth, and also by the crest of

shoulder hair and the regularly spaced spots which cover the entire body except for the head, which is more sparsely covered, and the tail tip, which is ringed. The cheetah, despite its appearance, is unlike other cats, being unable to retract its claws, which are blunt like those of dogs. Another uncat-like characteristic is its great speed, said to be between 90 and 110 k.p.h. when at full stretch, which it uses in order to run down the smaller antelope. It also kills Guinea fowl, francolin, young warthog and even hares. It is unlike the other wild cats also

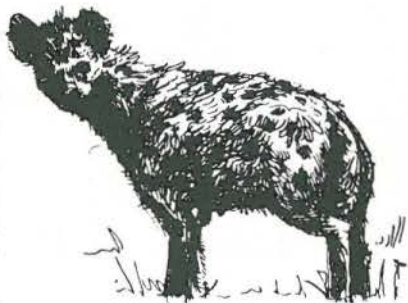


in that it does not attack men, even when cornered, a leopard under such circumstances being highly dangerous. The sexes are alike in colouration, although the males are somewhat bigger than the females. The cubs, two to four in a litter, are at first greyish in colour with rather long fur. Cheetah, although not as rare as at one time feared, are by no means common animals and, because of their wide distribution, are not always easy to find.

Some people think of the grazing animals as being in a constant state of fear of predators. Although they always remain very wary, they seem to know when a predator is not actually hunting, and at such times show remarkably little nervousness provided the carnivore does not get closer to them than the limit of their 'flight distance'.

During the dry season vast numbers of Yellow-throated sandgrouse, *Eremialector gutturalis*, congregate on the short-grass plains, and are very noticeable when one is driving along the Seronera-Olbalbal road, as they frequently leave it until the last moment before springing into the air and flying away, seeming unwilling to leave the warmth of the dry dust. They usually sit in pairs, the male being distinguished by the black-brown band on the foreneck. Sandgrouse live on seeds and shoots, and are very regular drinkers, congregating in huge numbers at available watering places.

In many parts of East Africa the hyena, *Crocuta crocuta*, FISI in Swahili, is rarely seen during daytime, but in the Serengeti they may frequently be observed lying at the mouth of their dens in broad sunlight. At night their whooping cry is everywhere to be heard, for they are at their most active after dark. Hyenas have the reputation of being scavengers who pick up the crumbs that drop from the lions' table; their very name brings to mind a cowardly, skulking figure. In fact, hyenas are powerful animals which frequently hunt and kill their own food, and it is not uncommon for lions to scavenge on *their* kills.



When a pack of hyena has pulled down a zebra or wildebeest it is only a matter of minutes before there is little evidence of their meal. Their jaws and teeth are so powerful that even the heaviest bones are cracked so as to extract the marrow, and only the horns, jaw bones and pedicle of the skull are rejected.

Hyenas live in clans varying in size from 10 to 100 animals, and occupy a recognised territory, but a sizeable proportion keep up with the movements of the great herds of wildebeest and zebra as they follow the grazing and water round the Park.

Hyenas have a variety of calls apart from the whooping recognition cry so often heard around the Lodge at night. If you hear the hysterical-sounding cackle which gave these ani-

mals the name of 'laughing hyenas', you can be sure there is some excitement afoot, such as a hunt or the meeting of animals from rival clans near their territorial border. A fully-grown hyena will weigh as much as 77 kgs.

As you cross the plains you may see fenced areas, thirty metres square, wired off in much the same way as a tennis court. These are exclosures (the opposite of enclosures) which have been erected by the ecologists of the Serengeti Research Institute, whose headquarters are at Seronera, in order to determine, over a period of years, what happens to a typical piece of ground if it is not grazed or trampled by herds of animals. No-one pretends that these are beautiful structures, but they are essential if much-needed scientific research is to be carried out in the Serengeti. We ask you particularly not to interfere with these in any way, as any intrusion could render the scientists' findings valueless.

Because the zorilla, *Ictonyx striatus*, with his black and white stripes is largely nocturnal he is rarely seen in daylight except, as unfortunately so often happens on busy roads, when he has been killed by a passing car. Zorillas are rather skunk-like in habits and appearance with head and body together measuring about 30 centimetres and a further 20 or 25 centimetres of 'bottle brush' tail. They live on small mammals, reptiles, eggs and young of ground-nesting birds, insects and locusts.

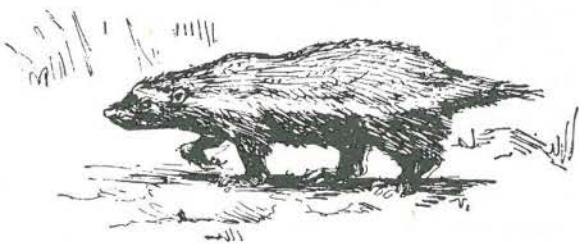
The large, stately bird with greyish-brown plumage, seen mostly on foot, is the Kori bustard, *Ardeotis kori*. Although never appearing in a hurry, the Kori bustard always manages to keep a respectful distance between himself and anyone interested in approaching him, only occasionally having recourse to a short flight. The male bird who, at about 12 kgs., weighs considerably more than the female, has a very spectacular display during the breeding season. At this time he seems to virtually turn himself inside out and, from even a short distance,



appears to be a bird of wholly white plumage and, to the uninformed, of a hitherto unknown species. Bustards live on small reptiles, mammals such as rats and mice, seeds and insects, particularly locusts. Two pale, greenish-brown eggs are laid on the bare ground towards the end of February and in March.

In the area around Naabi Hill and the Gol kopjes an exotic clover-like annual, *Medicago laciniata*, with minute yellow flowers has colonised the short-grass plains. Dr. Greenway, the well-known East African botanist, puts forward the interesting theory that this plant, a native of the Mediterranean, might have been introduced by means of the surplus army greatcoat, often first used in North Africa, large numbers of which were sold to the Maasai people after the last war. As the seeds would stick like burrs to a woollen coat, it seems a very plausible suggestion.

The ratel or honey badger, *Mellivora capensis*, known as NYEGERE in Swahili, will sometimes be seen on the short-grass plains, usually in the morning or evening especially during the hot season from January to April. In general appearance it is something like a European badger, having coarse grey fur on the back separated from the black underparts by a white lateral stripe. Ratels feed on wild bee grubs, eggs and young of birds, small mammals and reptiles. They are extremely courageous creatures, attacking fearlessly anything that appears to threaten them, however large, and have been known to go for the wheel of a car which approached too closely. There is an interesting partnership between the ratel and the Black-throated honey-guide *Indicator indicator*, which occurs in the Serengeti. After the bird has led the ratel to the bees, it perches nearby while the hive is broken open, hopping down to feed on the wax of the comb as soon as demolition is completed. The tough skin of the ratel seems to be impervious to bee stings.



The Long-Grass Plains

As you head northward into the Park from the direction of Ngorongoro you will notice that the plains, although still virtually treeless, begin to be covered by much longer grass, unless, as occasionally happens, uncontrollable fires have swept through the area. The change becomes marked near the Park entrance gate on Naabi hill, where you enter an intermediate zone between short and long-grass areas, and is possibly due to the less alkaline nature of the soil. The grass species which predominate in this intermediate zone are *Cynodon dactylon*, a star-grass, *Sporobolus fimbriatus* and green patches of *Andropogon greenwayi*, as well as *Pennisetum mezianum*, bamboo grass.

A common sight in this area is a small herd of topi, *Damaliscus korrigum*, NYAMERA in Swahili, staring with great interest at your passing vehicle. The topi is superficially somewhat like the kongoni or hartebeest, but is much darker in colour, the body being a rich bay with blue-black markings on the hips, thighs and upper forelegs. The horns also differ from those of the kongoni, being heavily ridged, slightly lyrate and curved evenly backward before upturning slightly at the tips. A full-grown topi will weigh about 135 kgs. and stand 130 cms at the shoulder. The calves are fawn in colour for the first five months of their lives.



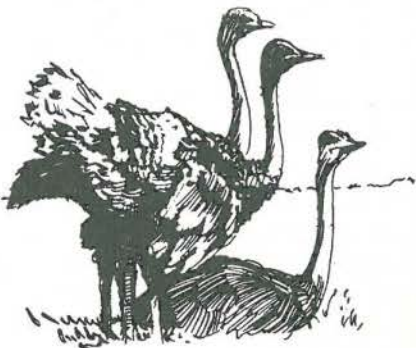
Lone topi often take up their station on top of rounded, star-grass covered termite heaps, from which vantage point they obtain a good view over the surrounding grassland. Without the added metre or so of elevation which the mound provides they would find it difficult to spot the approach of a stalking predator. As you drive past, the animal will often pivot slowly on his forelegs so as to keep you constantly in view. Topi, like kongoni, are grazers and their main enemy is the lion although Hunting dog have been known to pull them down on occasion.

Topi reach their eastern limit of distribution in this area, extending nearly as far as the foot of the crater highlands.

As already mentioned, and because topi and kongoni are often seen in the same area, there may be some difficulty in distinguishing between them. The kongoni, *Alcelaphus buselaphus*, or Coke's (pronounced Cook's) hartebeest is similar in size and weight, and also is frequently seen in small herds, but can easily be identified by the colouration and horns, which are markedly different. The kongoni's horns rise from a bony pedicle situated at the back of the head and grow outwards, and sharply backwards; when viewed from the side they look rather like a letter S. As with topi, horns are present in both sexes. In colour, the kongoni is fawn with a pale, almost white, rump. Kongoni have long, foolish-looking faces but are, nonetheless, very alert for signs of danger. When alarmed they gallop off at a great pace with their heads and necks held stiffly forward.



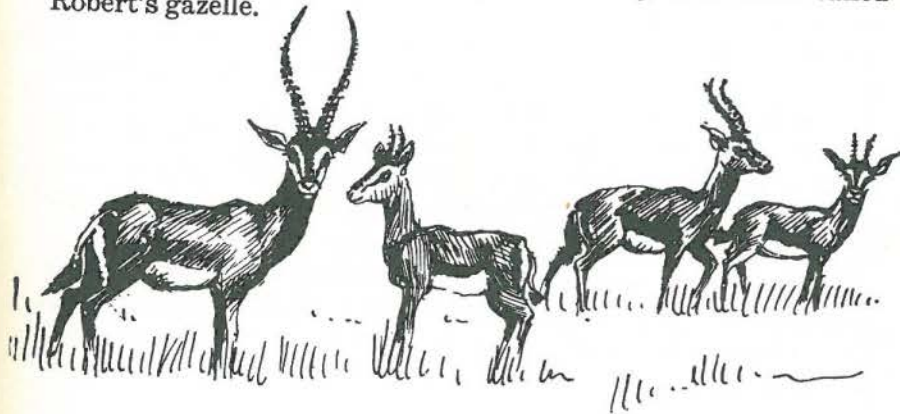
No-one catching sight of ostriches on the open plains will have difficulty identifying them, but there are several points of interest which you may not know. The ostrich, *Struthio camelus*, is the only flightless bird indigenous to Africa and is similar to the rhea of South America and the emu of Australia in that, like them, its breast bone is not keel-shaped, as in other birds, but flattened. The ostrich is the largest bird in the world. The male is black and white with flesh-coloured neck and thighs which turn bright pink during the breeding season, while females and young are greyish brown. Ostriches, MBUNI (pronounced 'um-boo-nee') in Swahili, are polygamous birds; all the females belonging to a single cock lay their eggs, which are mainly incubated by the male, in one nest, from which they are well known for



their trick of drawing an interloper away by feigning a broken wing. As many as thirty eggs are laid by a single hen in a slight hollow in the ground; although they are not all laid at the same time the whole clutch hatches out together.

Ostriches are very fast runners and are able to maintain their pace for a considerable time. This, together with the fact that they have the ability to swerve sharply, sometimes enables them to outwit predators such as lions, which are very fond of their flesh. As far as is known, ostriches do not, on these or any other occasions, bury their heads in the sand.

There are over half a million Thomson's and Grant's gazelle in the Serengeti, and they are often seen together. Thomson's gazelle, *Gazella thomsonii*, is a considerably smaller animal than Grant's, *Gazella granti*, the Swahili names of which are SWALA TOMI and SWALA GRANTI respectively. 'Tommies', as they are affectionately known, are redder in colour than Grant's which are pale fawn except for a white area round the rump. Tommies of both sexes have strongly marked black lateral side-stripes whereas in Grant's it is only the female who is marked in this way. Both male and female Tommies are horned, but those of the female are much smaller and are often deformed, or even absent. Horns are present in both male and female Grant's but they are much larger in the male, and there is a geographical variation in the actual horn shape, those living west of the rift having much more widely flared horns than those to the east. Those of the westerly race were even given a name to themselves, and you may occasionally hear them called Robert's gazelle.



Thomson's gazelle, which greatly outnumber Grant's in the Park, are about the size of a goat; their tails are never still, constantly swinging like a fast-moving pendulum. Grant's gazelle stand about 15 to 20 cms higher at the shoulder than Thomson's. Both species are killed in considerable numbers by predators such as lion, when they can get nothing bigger, African Hunting dog, leopard, hyena and cheetah. They are even taken when young by some of the larger birds of prey including the Martial eagle. Both species spend a good deal of their time on the long-grass plains after a fire, but will be seen elsewhere in the Park also; being capable of going for long periods without water they often remain in the short-grass plains after the wildebeest and zebra have left.

The tall Secretary bird, *Sagittarius serpentarius*, is often to be seen pacing through the grassland in search of snakes and other reptiles, which it kills with a powerful stamp of its foot, large insects such as locusts and the young and eggs of ground-nesting birds. The crest of feathers behind this bird's head is said to resemble the quill pens which in former times were carried behind a clerk's ear.



Secretary birds lay two large whitish eggs in a massive nest built of sticks and turf in the top of a flat-topped tree, often a considerable distance from the ground. These nests are used year after year, merely being renovated as the egg-laying season approaches.

Despite, or perhaps because of, their grotesquely ugly appearance, everyone has a soft spot for NGIRI the warthog, *Phacochoerus aethiopicus*, who is often seen in the long-grass plains in family parties foraging for roots and grass, which he

does by kneeling to rip the ground with his upward-curving tusks in much the same way as a man uses a pickaxe.

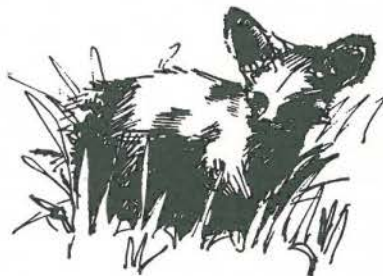
Warthogs live in burrows which they take over from other animals, often backing into the hole so as to be ready to repulse any attack made on them by predators. They are fond of wallowing in mud, and have the amusing habit of running with their tails held erect.



The enormous wart-like protruberances projecting from their faces give them their name, and may serve the purpose of preventing fluctuations of body temperature.

A very beautiful bird common here, as throughout the Park and, indeed, all Tanzania is the Lilac-breasted roller, *Coracias caudata*, often seen perched in a bush or even on a National Park sign. Two other rollers, the European and Broad-billed, also occur in the Park.

Bat-eared foxes, *Otocyon megalotis*, live in burrows in the open plain and, although mainly nocturnal, may often be seen and recognised by their generally foxy appearance and very large ears. In Swahili they are known as MBWEHA MASIKIO meaning 'eared jackal' although they are not in fact jackals at all, being true foxes and having the typical fox characteristic of vertical eye pupils. They feed almost exclusively on insects, but probably eat fruit, roots and eggs from time to time.



Around the Seronera Lodge

Although a pride of lions may occasionally walk right through the Lodge compound, and topi, kongoni, gazelle and, at night, hyena and jackal are nearly always to be seen close at hand, there are certain animals, birds and reptiles which have, more or less, overcome their fear of man and learned to live near him.

Hyaxes live in rocky outcrops or kopjes throughout the

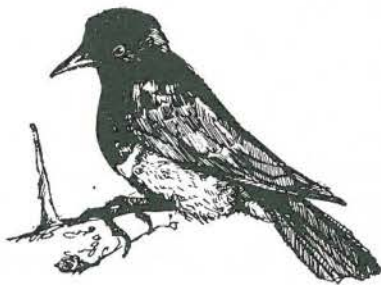
Park, but can be observed at leisure at the Lodge where, to some extent, they lead an artificial existence. Because of the proximity of human beings, the hyrax is very largely free from the attentions of predators, and shows a boldness and lack of precaution



against attack that he would not dare to do if living in one of the outlying kopjes. In addition to this, he has a ready supply of food in the form of vegetable waste thrown out from the Lodge kitchens. Hyrax will be described in more detail in this booklet under the heading of 'Kopjes'.

Also found here are vultures, Marabou storks and White-necked ravens, whose cawing call is so typical of settled areas of Africa.

Among the smaller birds the starlings are, perhaps, the most obvious, with their glossy plumage and iridescent colours. Commonly seen at the Lodge is the Superb starling, who can be recognised by the narrow white band which separates the deep blue of the chest from the chestnut of the thighs, Rüppell's Long-tailed Glossy starling, which can be distinguished by the length of his tail, and Hildebrandt's starling, which is superficially rather like a Superb starling without the white band on the chest and with red, not yellowish-white eyes. There are 37 species of starlings in East Africa, of which 7 have so far been recorded in the Serengeti.



They are all noisy, gregarious birds with well developed powers of mimicry — either of other bird calls or, occasionally, of mechanical sounds, such as a creaking axle or gate.

The male Agama lizard, with his coral-pink head, shoulders and throat and blue body, legs and tail, will often be seen sunning himself on the stone walls of the Lodge. This is a race of *Agama planiceps* which seems to have colonised the



western part of the Park from the south. In the area of the Barafu Kopjes a different coloured agama is to be found, having possibly colonised from the east. There is about a ten-mile wide 'no man's land' between the two species. It will be interesting to see what happens when, eventually, they meet. Another agama

lizard, which lives exclusively in trees and is, appropriately, green in colour, is also to be found in the Serengeti. Female agama lizards are a drab brownish-grey.

One of the most entertaining and interesting birds of the Serengeti is a regular resident of the Lodge area. This is D'Arnaud's barbet, *Trachyphonus darnaudii*, who is easily recognised by his speckled brown, white and yellow plumage, and his size which is about that of a European robin, or a little bigger. The male bird is extremely aggressive and will not tolerate for a moment

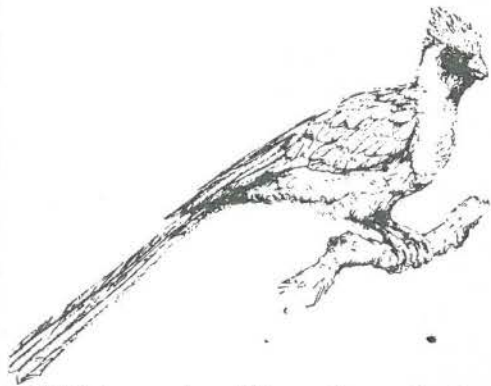


another male in his territory, but does not always show sound judgement, attacking with uncontrolled fury his own reflection in the hub-caps of visitors' cars. The mechanical sounding song, constantly heard around the Lodge is, in fact, a duet. The male bird, looking for all the world like a clockwork toy, bobs and bows to the female while repeating his part, the female meantime bobbing and twitching her tail as she sings the monotonous chorus. This barbet lays two to four white, oval eggs in a nest chamber at the upturned foot of a one metre long vertical tunnel which the bird excavates in sandy ground.

Other common and fearless birds around the Lodge include Speckle-fronted, Grey-headed Social and Masked weavers, Swahili sparrows, Cordon-bleus, Petronias and Ashy flycatchers. The Masked weavers usually nest near the dining room, during the rainy season.

The Bare-faced Go-away bird, *Gymnoschizorhis personata*, a species of turaco, is commonly seen in the acacia trees near

the Lodge and can be recognised by the pale grey and greenish-white plumage, crested head, and habit of running and hopping up the length of a branch rather like a squirrel. The whimsical name is derived from the bird's call which is said to sound like 'go away!', but more often is heard



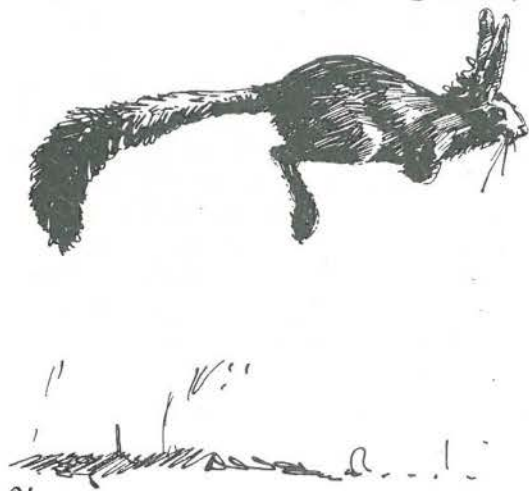
as a shrieking laugh or a clucking not unlike a domestic hen.

The call of many birds has been described as epitomising the sound of the East African bush, but that of the Ring-necked dove, heard usually at dawn or dusk, is surely one of them.

During daytime, Grass-mice, *Avicanthis niloticus*, are to be seen everywhere feeding on grass, seeds, and, if they can get them, crumbs and scraps from the dining room. They live in burrows underground and are very gregarious. They are quite harmless.

Three species of mongoose may be seen and heard around the Lodge kopje: Dwarf, Slender and Banded. These creatures will be described in greater detail in a later section of this booklet.

At night, Spring hares (which are named after their kangaroo-like method of getting about, not after the season of the year) may be seen by the light of a flashlight. Often the first thing noticed is their great luminous eyes, like round lamps bobbing in the dark. It is interesting that both eyes are never seen at the same time, as when viewed head-on the eyes do not reflect. Spring hares feed on vegetation and live in underground warrens.



Another nocturnal creature is the African dormouse which may be heard chattering at night in the roofs of the buildings.



Both porcupines and African hares can also be seen at night by flashlight.

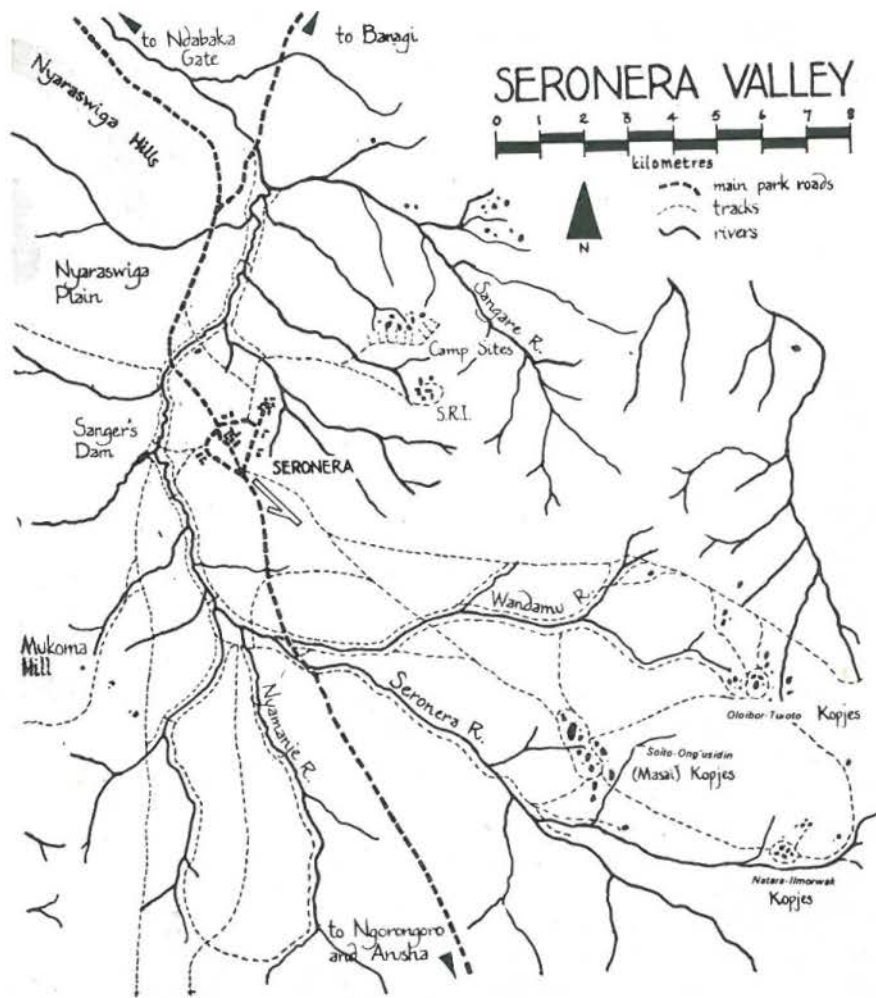


Common trees here are *Acacia tortilis*, *A. clavigera*, the 'stinkbark' acacia also found in the west of the Park and species of *Albizzia* which look like thorn trees but, in fact, have no thorns. In October, when these trees are in blossom, the scent is delightful and the wild bees fully occupied.

The Seronera Valley

The Seronera valley is justly famous for leopard and lion, both of which can usually be photographed here without difficulty. Leopard, *Panthera pardus*, CHUI in Swahili, should be looked for in the branches of the Yellow-barked acacia and 'sausage' trees along the watercourses, to which vantage point they carry their prey, often Thomson's gazelle or reedbuck, in order to get it out of the reach of lions, hyenas and, to a lesser extent, vultures, and where they rest during the heat of the day. Leopards are solitary creatures, the male only associating with the female when she is in season. Their markings are rosette-like clusters of spots, whereas those of the cheetah are single dots. Cheetah are also much lighter built and longer in the leg. Leopard are traditionally one of the most dangerous of large cats, but in the Seronera valley they are remarkably placid, allowing themselves to be photographed by visitors with no more signs of disapproval than apparent boredom;





The roads and tracks around Seronera provide excellent wildlife viewing, especially as they follow the watercourses where many animals take shelter during the heat of the day. Leopards particularly are often seen in the Yellow-barked acacia and 'sausage' trees which grow in the valleys, and resident prides of lions are always in the vicinity.

no doubt the females have brought up their young to have little fear of cars. Whereas the cheetah hunts by speed, the leopard catches his prey by careful, stealthy stalking. They are particularly fond of the flesh of baboons and, when near human settlement, dogs. It has been known for a troupe of baboons, when cornered on the ground, to turn on a leopard and tear it to pieces, but generally the great cat can snatch an individual from the edge of the troupe and make off before his presence is detected. When baboons or monkeys spot a leopard from the safety of trees they will often bark loudly at the intruder and even follow his progress from the safety of the branches overhead for although leopards are expert climbers they cannot hunt except on the ground. An average male leopard weighs about 50 kgs. and measures around 70 cms. at the shoulder. Leopards have a wide range of prey, most of which is found in plenty in the Seronera valley: monkeys, baboons, reedbuck, dikdik and game birds such as Guinea Fowl and partridge, as well as Tommies and the young of larger animals like waterbuck. Leopards do not roar like lions, but 'grunt', 'cough' or make a noise like sawing wood.

The waterbuck found here is *Kobus defassa* which has a large light coloured patch on the rump in place of the ring of *Kobus ellipsiprymnus* found to the east of the Rift. As their name implies they usually live near the watercourses and will take to the water when pursued. Only the males are horned. Their Swahili name is KURO.

Along the valley both Helmeted Guinea Fowl, *Numida mitara*, KANGA in Swahili, and Grey-breasted spurfowl, *Pternistis rufopictus*, KWALE, are common, and form an important part of the diet of the smaller predators such as civet, serval and Wild cats, genets, the larger species of mongoose and jackals.



The Grey-breasted spurfowl fills the niche, in the Serengeti, of the Yellow-necked spurfowl, which is found in dry bush country east of the Rift in Maasailand, the two species having a point of contact at the upper limit of Oldupai gorge near

Lake Lagaja where hybridisation takes place and birds with every imaginable colour combination and permutation are to be seen. Because much of the open plains of Serengeti are an unsuitable habitat for spurfowl they tend to separate the two species elsewhere.



The scattered trees in the Seronera red-oat grassland are mainly species of acacia and commiphora, with *Acacia tortilis*, the flat-topped or umbrella acacia, predominant. Along the valley itself the Yellow-barked acacia (Kipling's fever tree), *Acacia xanthophloea*, and the wild date palm, *Phoenix reclinata*, called MKINDU in Swahili, are much in evidence. Commiphoras look rather like unpruned apple trees. *Balanites aegyptiaca* is a very common tree on the edge of the plains, and is also seen in the area of Lake Magadi and the Moru Kopjes.

The greatest attraction, to most visitors, of the Seronera valley is the chance to see large prides of lions, many of which are resident here. Although some individual lions follow the movements of the migrating wildebeest and zebra, large numbers remain in the valley throughout the year, feeding on topi, kongoni, waterbuck and gazelles. It is interesting to note that the lions which follow the herds remain in good condition but do not seem to breed successfully. Those that stay in the valley are hard put to it to find food at certain times of the year, especially for the cubs, but they regularly produce young. Not only do visitors have a chance to see and photograph the prides, but if the lions take it into their heads to visit the Lodge they hear them as well: an awe-inspiring but wonderful experience.

The lions in the Seronera valley are so used to vehicles that they barely raise their heads provided no-one is foolish enough to attempt to get out of his car. Were he to do so, the seemingly placid animals would be galvanised instantaneously into action. Lions are creatures of tremendous power and speed, despite their apparent liking for an easy life, and it would be most unwise,

possibly fatal, to be deceived by their lack of activity during the heat of the day into thinking that they could be trifled with.

SIMBA the lion, *Panthera leo*, lives in the hot dry regions of Africa and is being more and more confined to National Parks and Game Reserves because his presence in cattle-ranching or agricultural areas is a threat which farmers cannot tolerate. Where wild prey species are plentiful, however, he rarely molests either man or his stock, preferring to hunt for himself. A very large male lion may weigh as much as 225 kgs. when fully fed, and measure $2\frac{1}{2}$ metres from nose to tail tip; 180 kgs. would be more usual, however. An interesting fact about lions is that most individuals have a 'claw' hidden in the brush of the tail. This is not hard, but is composed of a keratinous material. Neither its origin nor purpose is known.



During the heat of the day lions like to rest in the shade of trees, but before the heat has become intense they will often bask on a rock. They generally seem to be tolerant of other pride members, feeding off the same kill with only a minimum of friction. Even a fully-grown male will allow the cubs considerable liberties. It is a pleasant sight to watch the way in which lions greet each other, the approaching animal rubbing his head against the cheek and chin of the one being greeted.

Lionesses usually give birth to two to four cubs every second year, unless they lose their cubs earlier, choosing a secluded clump of tall vegetation for the purpose. Here the cubs are guarded by their mother and other lionesses of the pride until they are about 2 to 3 months old, when they cease to be entirely confined and start to join the pride from time to time, especially on the kill.



It has often been said that lions in National Parks do not associate cars with people. This is probably not true, as there

is little doubt that in places where they are never hunted or molested in any way they lose their fear of man provided he is in a situation they understand and trust, such as in a vehicle. Were he to get out and walk they would not remain quiescent long.

When lions are feeding on a kill their presence is often made known by the concentration of vultures and Marabou storks, either circling low over-head or sitting patiently in nearby trees. Six species of vulture occur in the Serengeti: Rüppell's griffon, White-backed, Lappet-faced, White-headed,



Egyptian and Hooded. Of these it has been observed that White-backed and Rüppell's are adapted for pulling out large soft pieces from the carcase, Lappet-faced and White-headed are better able to tear and twist off the tougher and more sinewy meat, and Hooded and Egyptian peck up the smaller pieces of offal. Generally speaking the vultures will not attempt to feed from the kill while the lions are still in possession of it, but the Hooded vulture is bolder than the other species in this respect, as he does not need such a long take-off distance as the others. Although principally scavengers, both Lappet-faced and White-headed vultures have been known to kill their own prey, taking young 'Tommies', Bat-eared foxes, fledgling Secretary birds and even Wild cats. Egyptian vultures have been seen to feed on ostrich eggs which they break open by using rocks held in the beak. This is a most unusual example of tool utilization by birds.

Also to be seen on the kill once the lions have finished with it are hyenas and the three species of jackal that occur in the Park, although it is unlikely that you will see all three at once, as the Side-striped, *Canis adustus*, with its white tail tip, is rather rare and the Golden, *C. aureus*, is mainly to be seen on the short-grass plains. Most likely to be found is the Black- or Silver-backed jackal, *Canis mesomelas*, who can be distin-



guished by his silver-streaked black saddle and yellowish-rust coloured flanks and legs. All three species are called MBWEHA in Swahili. Apart from feeding on kills, jackals eat a variety of small creatures including Sacred Scarab grubs which they extract from the enclosing ball of dung.

During and just after the rains, in May and June, the tall purple flowers of *Erlangea cordifolia* often grow side by side with the yellow, daisy-like *Bidens schimperi* with its clinging 'black-jack' seeds, especially at the side of the roads and near watercourses. Also common is the white Morning-glory, *Ipomoea mombasana*, so reminiscent of convolvulus or 'bindweed' in Britain. After the long grass has been burned off Pyjama lilies, with their purple, red and white stripes often decorate the plain.



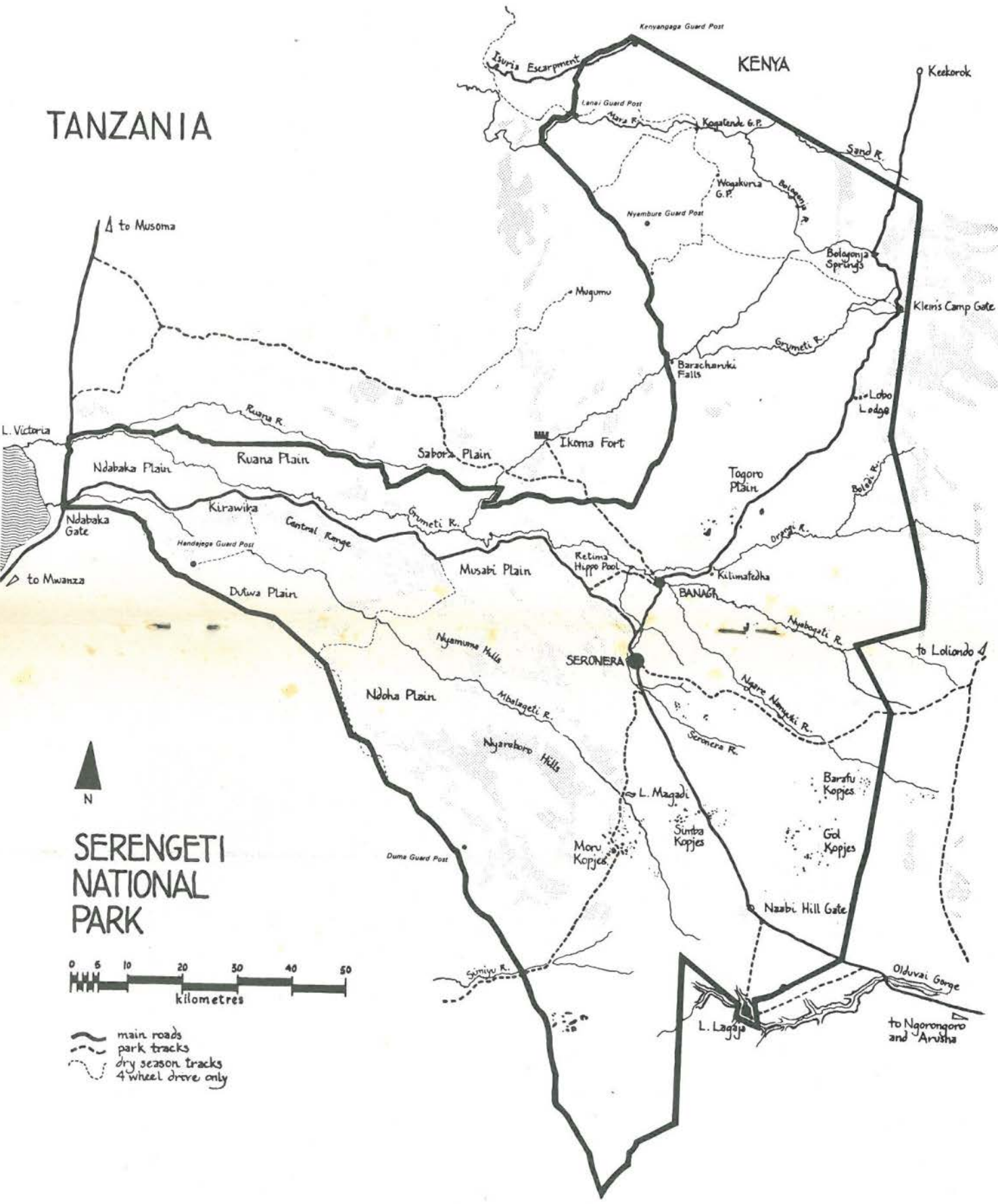
Kopjes

The Afrikaans 'kopje', which literally means 'small head', is the word commonly used in East Africa for the rocky outcrops technically known as inselbergs. They consist of very old granite rock which, because of erosion and weathering throughout geological time, has broken up into a rough and jumbled surface. Erosion is a never-ending process. Flakes of granite are constantly peeling off the boulders, rather like the skin of an onion, as the effect of contraction and expansion, caused by the considerable difference between day and night temperatures, makes itself felt. Acids from the air also play their part in corroding and eventually decomposing the rock.

In the open grasslands, where the countryside has been more or less levelled off by deposits of dust and ash from the volcanoes of the Rift, they stand out in remarkable juxtaposition.

TANZANIA

KENYA



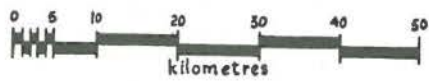
to Musoma

L. Victoria

to Mwanza



SERENGETI NATIONAL PARK



- main roads
- park tracks
- dry season tracks
- 4 wheel drive only

Kenyanaga Guard Post

Isuria Escarpment

KENYA

Keekorok

Lanai Guard Post

Kogatende G.P.

Sand R.

Wogakuria G.P.

Nyembure Guard Post

Bologonya Springs

Mogumu

Klein's Camp Gate

Barachanuki Falls

Sumbeti R.

Lobo Lodge

Ruana R.

Ndabaka Plain

Ruana Plain

Sabora Plain

Ikoma Fort

Togoro Plain

Bolaji R.

Kirawika

Central Range

Sumbeti R.

Musabi Plain

Retima Hippo Pool

Kilimafedha

Dufwa Plain

BANAGH

to Loliondo

Nyamunjo Hills

SERONERA

Ndoha Plain

Mbalageti R.

Nyareboro Hills

Somera R.

L. Magadi

Simba Kopjes

God Kopjes

Duma Guard Post

Moru Kopjes

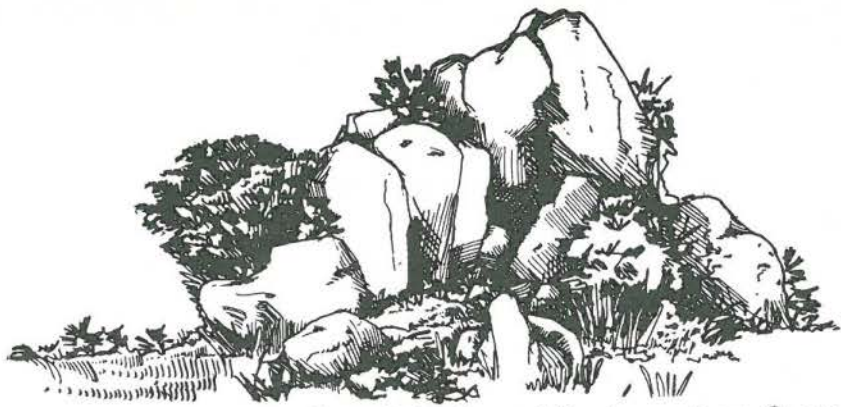
Nzabi Hill Gate

Sumbeti R.

L. Lagaja

Olduvai Gorge

to Naorongoro and Arusha

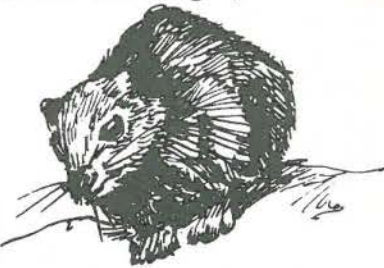


position to the surrounding plain. Around Serónera where, in any case, there is *acacia-commiphora* woodland to obscure the view the comparison is not so marked.

The kopjes are remarkable in that they have their own range of vegetation and wildlife which, in the case of those in the open plains, makes them into islands in a sea of grass. Here, where there is little shelter from the sun, they provide shade and protection and a habitat free from the dangers of fire and flood.

Although the kopjes vary, some in the open plains being little more than mounds of barren rock, they often support a thriving cover of shrubs and, around the base, MKONGI the wild sisal, *Sansevieria robusta*, used for making bowstrings, also known as bowstring hemp, which is occasionally chewed by elephants. The Maasai word for this plant is OLDUPAI or OLDUVAI, depending on the local pronunciation, and has given its name to the famous gorge where remains of 'Nutcracker man' were discovered, because it grows in such profusion there.

Perhaps the most obvious form of wildlife is the hyrax, of which two species occur. The Rock hyrax, PIMBI in Swahili, *Procavia johnstoni*, is larger and browner in colour than the Tree hyrax, *Dendrohyrax brucei*, whose fur is grey. These animals, the conies of the Bible, differ in habits in that the Rock hyrax grazes the grasses up to 55 metres from the kopje base while the Tree hyrax lives on the tender leaves of the umbrella acacia growing nearby, which he climbs with the greatest alacrity.

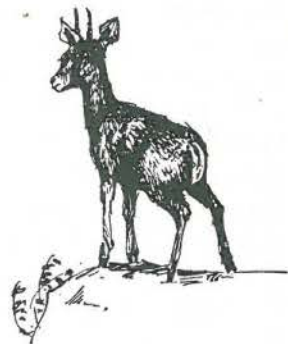


The typical kopje vegetation does not form a food supply for either species, but probably benefits by their presence.

Hyraxes are notable for being the nearest living relative of the elephant, as shown by anatomical similarities, a fact not easily accepted by the casual observer. They resort to a regular spot in the rocks to deposit their faecal matter, the boulders often being stained orange in such places. During the 19th century a product known as 'dassiepiess' (hyraxes are known as dassies in South Africa) was a regular feature of the European pharmacopoeia, being administered in stubborn cases of hysteria. It was composed of the dried residue of hyrax urine which was scraped off the rocks and ground into a powder. There seems to have been some doubt of its curative properties however, as it was reported by a professor of Leyden University, who had carried out experiments, that it had little effect on his students, who had been dosed with the preparation, other than that 'they rifted right well'.

Often a pair of Kirk's dikdik, *Rhynchotragus kirkii*, lives at the foot of a kopje. These are extremely small antelope, weighing only about 3½ kgs. The female is slightly bigger than the male. In colour they are greyish-drab and have very large, luminous eyes and proboscis-like noses. Only the male is horned. Like the hyrax, they have the habit of depositing their droppings in a selected spot, where large quantities will be found.

In the northern part of the Park klipspringer, called MBUZI MAWE, 'rock goat' in Swahili, can be seen on the outcrops provided care is taken. *Oreotragus oreotragus*, as he is known scientifically, is a shaggy-coated antelope of approximately 20 kgs. weight. As he lives exclusively on the rocks his hooves are well adapted for leaping from boulder to boulder, being very short and narrow so that only the tips come in contact with the rock surface.



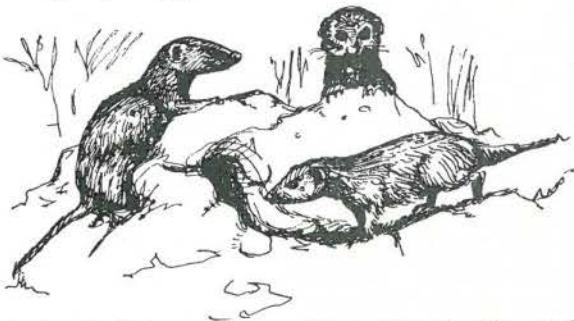
The inaccessible tops of some of the rocks in the kopjes make secure nesting sites for birds of prey, such as the splendid Verreaux's eagle, *Aquila verreauxii*, which has been known to

build in the Moru kopjes in the southwest of the Park. This magnificent, solitary raptor kills hyraxes, hares and even some of the smaller buck. It lays one or two whitish eggs in a huge nest at the beginning of the rainy season.

Species of aloe as well as the tall *Leonotis nepetaefolia* grow in and around the kopjes and are fertilised by sunbirds as they fly from flower to flower. Often species of blue or yellow hibiscus are also to be found near the foot of the rocks.

Slender, Dwarf and Banded mongooses are frequently seen in the vicinity of kopjes. The Slender or Black-tipped mongoose is a very lightly built animal about 40 cms. long in the body which is covered with wiry grizzled brown fur. It is a solitary species and can be recognised by its habit of carrying its long tail curved up at the tip. Like the other species, they live on snakes, lizards, rats and mice, birds' eggs and fledglings, grubs, fruit and berries. Dwarf mongooses (sometimes called Pigmy mongooses) are much smaller, being only 20 or 22 cms. long in the body. They are a dark reddish brown in colour and are usually seen in small groups which frequently live in disused termite mounds. The Banded mongoose, also usually seen in troupes, is dark brownish-grey with conspicuous bands around the body, which is slightly bigger than that of the Slender species. Although he takes a variety of other food he is known to be principally insectivorous. All mongooses are known as KICHECHE, plural VICHECHE, in Swahili.

Snakes, particularly Spitting cobras, *Naja nigricollis*, and Puff adders, *Bitis arietans*, live in the rock crevices and will kill adult hyrax as well as lesser creatures.



Often seen at dusk round the kopjes, hawking for insects or resting on the ground is the nightjar, one of whose Swahili names, MPASUASANDA, means literally 'tearer of grave cloths'. The nightjar has always been endowed with a multiplicity of names, both in English and Swahili, and generally has an unenviable reputation, being associated with a number of superstitious beliefs. In England one of its many names is 'goatsucker' as it was thought that it entered the goat pens at night and sucked the milk from their udders. One Swahili folk tale, however, is kinder to this much maligned bird which is, of course, completely harmless. "Once upon a time, a nightjar on a journey stopped opposite a blacksmith's forge to watch him at work. While he was satisfying his curiosity a spark flew from the anvil and alighted in the bird's left eye, whereupon the nightjar continued on his way. His mission accomplished, he returned by the same path and once again stopped to see the red-hot metal hammered and shaped and, once again, a spark flew, this time falling into the bird's right eye. From that day to this, the eyes of the nightjar grow redly at night." And so they do.

Nightjars' feet are adapted for resting on the ground; when perching on a branch they do so longitudinally, not at right angles as other birds do. Two species of nightjar have been recorded in the Serengeti, the Dusky and Pennant-winged, the male of which carries enormously long streamers on his wings when in breeding dress.

Poaching

Poaching is a very real threat to the Serengeti and could become a most serious menace to its wildlife if it were not for the constant vigilance of the National Parks Field Force, which through a system of outlying Ranger posts and airstrips is able to act the part of game-keeper to this vast wilderness area.

Poaching is carried out by local people living near the boundaries of the Park, and is especially serious in the western

corridor, the northwest boundary and the Lamai area adjoining the Kenya-Tanzania border. In the southern part of the Park poaching is less of a problem because of the sparseness of human settlement nearby and because the Maasai tribe, who roam the plains in the area southeast through south to southwest of the Serengeti's southernmost limit, are not traditionally hunters, scorning any meat other than that provided by their own flocks and herds with the one exception of eland which they will eat in times of hardship. It is true that the Maasai will occasionally kill rhino and lion, but for the most part they leave the ungulates alone.



It is during the dry season that poaching is at its peak, and in a very dry year losses can reach alarming proportions, several thousand head of all types being snared, trapped or shot indiscriminately. Apart from the actual losses of animals, the most unwelcome side-effects of poaching are the grass fires which the poachers light in order to facilitate their operations. These fires, once lit, sweep across hundreds of square kilometres of country and are impossible to control.

The most common, and deadly, method used by the poachers is the setting of large numbers of snares, two metre lengths of steel wire rope, in gaps of fences and by drinking places. In open country, snares, plaited from wild sisal, are set in gaps left in specially prepared lines of cut thorn bush and anchored to the ground with logs, whereupon gazelles are stampeded towards the line and snared as they dash through. Using this method, one drive may account for as many as thirty gazelle.

Snares change hands at Shs. 30/- (\$4.30) each, an indication of the value set on them by the poachers. 18,000 were confiscated and destroyed by the Field Force between 1956 and 1968.

To a lesser extent bows and poison-tipped arrows are used, especially from ambush near a water hole. The poison most

commonly used is obtained from the tree *Acokanthera schimperi* but the use of poison from the shrub *Strophanthus eminii*, is also known. Three other poison-bearing plants occur in the Park and around its borders but the local people do not seem to be aware of their use. These poisons are quick acting and extremely lethal, but do not spoil the meat as they can be ingested without danger provided they do not gain direct entry to the blood stream. In practice, the area immediately surrounding the place where the arrow struck is often cut out and discarded.



When poaching is carried out on a small scale only, pitfalls may be dug and covered over with a flimsy roof of twigs and grass. The pits are four to five feet deep, narrower at the bottom, and placed in well-used runs. If an animal falls in, it is gripped at the shoulder by the sloping sides of the pit and is speared at leisure by the poacher.

Park Wardens often have considerable sympathy with the small-time poacher with his spear, bow and arrows as he usually comes from a long line of traditional hunters whose only interest is in filling their cooking pots, never engaging in wholesale slaughter for financial gain.

Of recent years however, a more modern type of poaching activity has begun to be adopted. Poachers in four-wheel drive vehicles, armed with high velocity rifles and up-to-date shotguns have entered the field, usually at night, often backed up with trucks for subsequent haulage of the meat and trophies.

Despite the fact that there are approximately 200 convictions a year in the local courts the incentives remain high: wildebeest tails for making fly whisks fetch Shs. 30/- each, dried meat brings in Shs. 7/- a kg., and a lion skin is worth Shs. 100/- on the black market. One buffalo will yield Shs. 600/-. Rhino horn, mainly obtained in the northern part of the Park, is sold for high prices because of its supposed aphrodisiac properties and is said to find its way to Asia in large quantities.

In the control of poaching there is no single tool more valuable than the light aircraft from which poachers and their camps can be spotted so that ground forces may be directed to the scene.



Banagi

Banagi, 18 kms. north of Seronera on the road to Klein's Camp, and Keekorok in Kenya, was the original site of the Game Department local headquarters before the Serengeti became a National Park in 1951, and continued in use as the Park headquarters until Seronera was developed in 1960. It was from here that Professor Grzimek and his son Michael staged their well-known research into the ecology of the Park, using a light aircraft as their main means of investigation. After Michael's sad and untimely death, caused by an air accident at Malambo near the Ilodonyogol mountains in 1959; the Michael Grzimek Memorial Laboratory was built at Banagi for purposes of scientific research in the Serengeti. His name has now been applied to the new research buildings at Seronera.

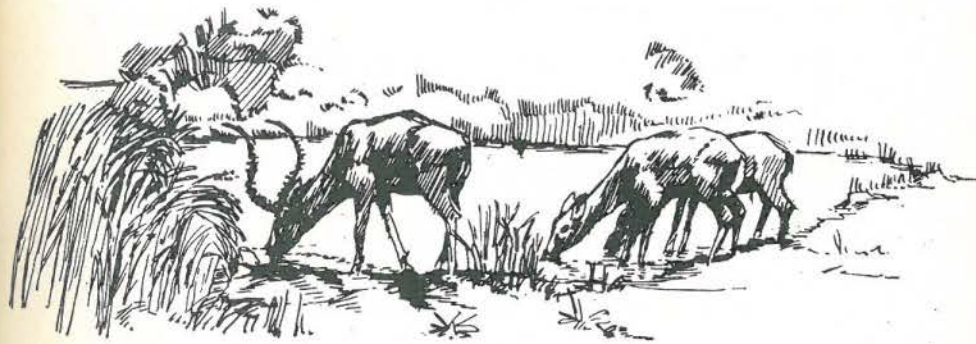
Under the shadow of Banagi hill, which is composed of very ancient, erosion-resistant banded ironstone, are usually to be found herds of buffalo and impala as well as groups of giraffe. The buffalo, NYATI or MBOGO in Swahili, scientifically *Syncerus caffer*, will be seen either in mixed breeding herds or as old male animals living alone or in company with other old males. They weigh up to 775 kgs., measure about 1½ metres at the shoulder, and carry massive, heavily bossed horns. Buffalo are entirely grazers, but generally avoid the open grass plains, preferring the bush country where shade is available to them during



the heat of the day. They need to drink regularly and are especially fond of wallowing, so are rarely found far from water. Except when young or when sight and hearing, both of which are excellent when in their prime, have become dulled with old age, the bull buffalo has virtually no enemy to fear. If lions are bold enough to approach a herd, the bulls form a ring with the cows and calves in the centre and in all probability drive the king of beasts away. Cows and calves, however, are sometimes taken by lions.

One of the most graceful of East Africa's antelopes, the impala, SWALA PALA in Swahili, is also, like the buffalo, seen either in breeding herds of females and young or in all-male groups of from ten to fifty animals. The male groups of *Aepyceros melampus*, as impala are known scientifically, are not, however, composed of males too old for herd life as in the case of the buffalo, but on the contrary are sexually mature animals which have not succeeded in obtaining a territory, through which the breeding herds pass.

The impala has a rufous coat, dark above blending into fawn below, with a black stripe bordering the white rump patches. The male has elegant lyrate horns which are not found in females. Both sexes have scent glands concealed in tufts of black wiry hair just above the heels and also in what is known to horsemen as the 'stifle' — where flank and thigh meet. Impala stand about one metre at the shoulder and weigh around 70 kgs. for males and 50 kgs for females.



Being browsers as well as grazers impala are seldom found far from cover. They are constantly on the alert as they form a favourite food of many larger predators, particularly leopards.

When the herd moves the dominant male can easily be spotted, not only by his horns but also because he usually brings up the rear. From time to time fully developed males from the bachelor herds challenge him for possession of his territory, whereupon serious fights ensue. If he can beat off the intruder he remains in control, but if unsuccessful is driven away to live with the all-male herds. The Serengeti male impala has the biggest horns of his kind anywhere in Africa.



Because giraffe, *Giraffa camelopardalis*, feed almost exclusively on the tender leaves of acacia trees they are rarely seen anywhere but in areas in which these trees grow. The species occurring in the Serengeti is the Maasai giraffe, which can be distinguished from the Reticulated animal, not found here, by its irregular roseate or star-shaped markings which cover almost the entire body. As giraffe do not compete for food with the grazing animals, and barely overlap with the other browsers because of the height at which they feed they are able to share their habitat with a wide range of creatures. They have difficulty in bringing their heads down to ground level,



so when drinking have to splay their forelegs out sideways in order to get at the water. A male giraffe weighs about 1000 kgs. and stands 3½ metres at the shoulders: the female is about one metre shorter and correspondingly lighter. For all its great length the giraffe's neck has only seven vertebrae, as in man. TWIGA, as he is known in Swahili, is the national emblem of Tanzania.



At the hippo pool 6 kms. from Banagi at Retima you will be able to watch a party of *Hippopotamus amphibius*, KIBOKO

(plural VIBOKO), passing the daylight hours submerged in the muddy waters of the Orangi river. In the Serengeti, hippos graze only at night, seeming unable to stand the effects of strong



sunlight on their skin which, considering its thickness, is rather surprising. Both copulation and parturition take place in the water, but the young, until such times as they are able to enter the water on their mothers' backs are subsequently hidden in clumps of reeds or tall grass at the water's edge. Although hippos avoid the attentions of biting flies and ticks, which are the lot of landbound creatures, they suffer considerably from leeches. The males, a good deal heavier than the females, may weigh as much as 4000 kgs. though 2000 or 3000 is more usual. Hippos are sometimes killed by poachers for the ivory of their tusks, which, being softer than elephant ivory, is in demand for carving curios.

It is safe to watch the hippos from the bank as they bask in the water, but they should be avoided if found on land. It is positively dangerous to get between a hippo and the water, thus cutting off his line of retreat.

The large bird of prey with a very short tail and chestnut upper parts, seen in this area and elsewhere in the Park, is the Bateleur eagle, *Terathopius ecaudatus*, a very characteristic African raptor. It is generally seen on the wing and is capable of some sensational aerobatics. When hunting seriously it stoops at great speed.



Banagi Northwards

The country northward from Banagi on the road to Klein's Camp gate, and Keekorok in Kenya, is characterised by denser woodland, open plains of small extent and numerous rocky outcrops. The area from Banagi to Kilimafedha is composed of some of the world's most ancient rock — two to three thousand million years old — containing gold-bearing quartz veins. The name Kilimafedha means 'hill of wealth' and it is here that gold was being extracted from the mines as recently as 1966. Kilima means hill in Swahili and fedha, although actually meaning silver, is a general term for wealth or money. The Germans first investigated the Kilimafedha area for gold as early as 1906, and mining subsequently took place. It is down the disused shaft of one of the larger mines that captured snares are dumped in order to prevent them from reverting to the hands of poachers.

It is in this part of the Park that elephant, *Loxodonta africana*, are most likely to be seen, as well as damage to the woodland which they have inflicted. In the past the Serengeti was not considered elephant country, but of recent years more and more have been recorded here, probably due to pressure put upon them in non-reserved areas by the demands of agriculture and hunting.

This damage, seen in the north of the Park and also along the Seronera valley, is mainly noticeable during the height of the dry season. During the wet months of the year, when the vegetation is lush, it is not nearly so apparent, and rarely causes comment. Why the elephants are attracted to the trees is not known. In certain parts of East Africa damage is caused during the dry season, in others at the wet time of year. The tree species attacked also varies from place to place. In some areas the elephants are still mainly grass eaters, leaving the trees alone.

Ever since the elephants came into the Seronera area in 1965, Research Scientists have been studying the problem of the effect they have had on the vegetation, especially the breaking and knocking over of large trees.

Elephant Ecologists with the Serengeti Research Institute are currently studying this problem from their base at Seronera. They report that the 'culprits' are all-male elephant groups loosely associated with cow/calf herds.

Actually, the damage often looks worse than it is, being generally sporadic, although sometimes intensive in small areas, and so far the offtake of trees, in percentage terms, does not appear serious biologically.

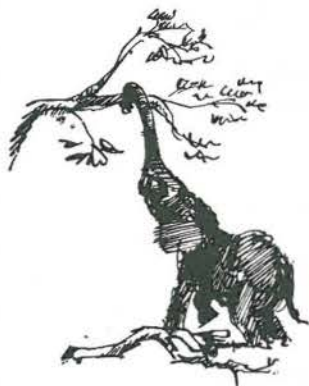
A comparison of aerial photographs taken in 1961 (before the elephants came) and in 1968 has shown that the percentage decrease per annum of large trees in one of the most affected areas is less than 1.5% over the period.

Driving along the river valleys, it will be noticed that there is a vast amount of regeneration of young heavily-thorned trees which, if protected from fire, will amply replace the mature trees eaten, with remarkably little waste, by elephants.

In all ecological questions, many factors are involved. The Serengeti Research Institute's team of biologists is currently studying the problem of elephants, fire and trees. On the evidence so far, there does not appear to be any need to interfere with the natural processes of tree utilization by wild creatures, particularly elephants.

For those who are bothered by the aesthetic appearance of fallen trees, it should be remembered that the Serengeti is not a Zoological Garden, but one of the few remaining great, unspoilt ecosystems of the world, a world in which, unfortunately, so much has been irreparably damaged by man's injudicious interference. You are present at, and witnessing first hand, the dynamic interactions of wild animals and their environment. Elephants, although they undoubtedly destroy trees by pushing them over, are also a means of spreading tree seeds, many of which, because they have hard cases, need to be reduced in toughness in some way before they can germinate. In

some tree species this operation is achieved by the scorching of a passing bush fire, but in others which are palatable to elephants the same result is gained by their passing through the digestive system of these great beasts. Not only is the outer case of the seed softened but the seed is deposited in its own pile of manure, thus ensuring as far as possible its survival.



The African elephant, NDOVU or TEMBO in Swahili, is, at 3½ metres at the shoulder for a well-grown bull, somewhat larger than the Asiatic elephant which is the one usually seen in circuses. The Asiatic's ears are also proportionately smaller and its back more rounded.

If you see a herd of elephants it is most likely to be either an all-male group or a family unit consisting of adult females and young, up to the age of 12 or 13 years, led by the oldest and largest female. Mature males only associate with the cow-calf units when a female is on heat. Once oestrous has worn off they rejoin the all-male groups or go off on their own. Fully grown, healthy elephants have little to fear from lions, but the calves, only 80 cms. high at birth, would not survive long if it were not for the very aggressive adult females who guard them. Do not approach elephants too closely, especially if they show signs of aggression such as spreading of the ears or head shaking, as this may lead to a charge. Generally the females are more truculent than the males but a male who has recently been chivvied by poachers is likely to be of uncertain temper.

In the gallery forest which follows the watercourses, consisting of huge fig and mahogany trees and, on the Mara river, of *Podocarpus*, live brightly coloured birds of the turaco family, especially Hartlaub's and Ross's. This family, of which the Bare-faced Go-away-bird is a member, are noted for their harsh call and habit of running and hopping along the branches of a tree. In the *Podocarpus* forest bordering the Mara river

are to be found Black-and-white Casqued hornbills, *Bycanistes subcylindricus*, which have probably occupied this area by following the gallery forests upstream from Lake Victoria. *Podocarpus*, under the name of podo, is a very valuable timber much used in joinery.

Along the river banks several species of kingfisher are to be seen as well as the black and white Fish eagle, *Cuncuma vocifer*, whose lonely cry will often be heard echoing above the riverine forest.



Crocodile and hippo live in the Mara river and seem to tolerate each other's presence. In the surrounding country Black rhino are found in considerable numbers. Unlike the White rhino, which is a grazer, the species occurring here has a rather long prehensile lip adapted for browsing off thorny shrubs, and is far less placid than his 'white' cousin — actually they are both the same colour, grey. *Diceros bicornis*, as he is known scientifically, has poor eyesight although his senses of hearing and scent are acute. This is said to be the reason for the feint or dummy charges he makes in order to scare an intruder into movement, thus giving his position away. Except in areas where they have been completely protected for a long time their tempers are often none of the best, and they are not above running at a car if it gets too close. In Swahili the rhino is called KIFARU (plural VIFARU), a name which, through association, was applied by East African troops in World War II to tanks.



Both sexes have horns composed not of real horn but of compacted hair-like fibre which on occasion can become worn through or even detached, in which case they immediately starts to grow again, at a rate of approximately seven centimetres a year.

A male Black rhino weighs over 1000 kgs. and measures 1.8 metres at the shoulder.

Both Cotton's oribi *Ourebia ourebi*, and the Grey Bush duiker, *Sylvicapra grimmia*, TAYA and NSYA respectively in Swahili, are found in this area. The oribi is a distinctive reddish-fawn antelope standing about 60 cms. at the shoulder, and can be recognised at close quarters or through binoculars by the dark, circular glandular patch below the ears. Slender, pointed horns are carried by the males only.

Grey Bush duikers are about the same size as oribi, and are grey-buff in colour. Horns are normally only present in the male, though old females occasionally grow them in a rather thin, stunted form.

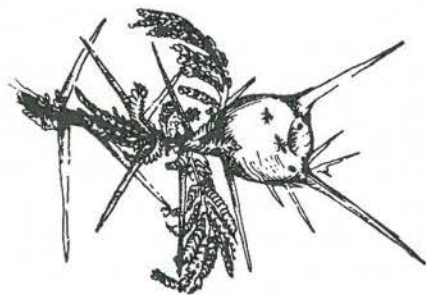
A rare animal here, but one you might be lucky enough to see, is the Pataas Ground monkey, sometimes called the 'red hussar'. He is a large, rangy animal with a ginger-red and white coat and, as his name suggests, is more at home on the ground than, as with most of the monkeys, in the trees. He is diurnal, and moves about in small troupes.

Anyone who has heard the wind blowing through *Acacia drepanolobium* will appreciate its common name of whistling thorn.

The whistling sound is caused by vibration of the spiky thorns as well as by the wind passing over the apertures in the galls. These are always present in *Acacia drepanolobium*, not being induced by ants, as is the case with most galls.

The galls themselves are hollow and are inhabited by various inquilines and symbionts, notably the *Crematogaster* ants, which raise their young in the comparative safety of the thorn-protected galls.

It appears that the ants abandon the galls once the branches on which they are situated have dried up.



Two other acacias typical of this area are *Acacia gerrardii* with its high, rounded crown and a small dull tree *Acacia hockii*, which rarely grows bigger than 7 metres high, seen in profusion in the Togoro plains.

At the time of writing, the most northerly part of the Park is being developed with the completion of a lodge at Lobo. Roads and tracks are steadily being improved so as to open the area to visitors.

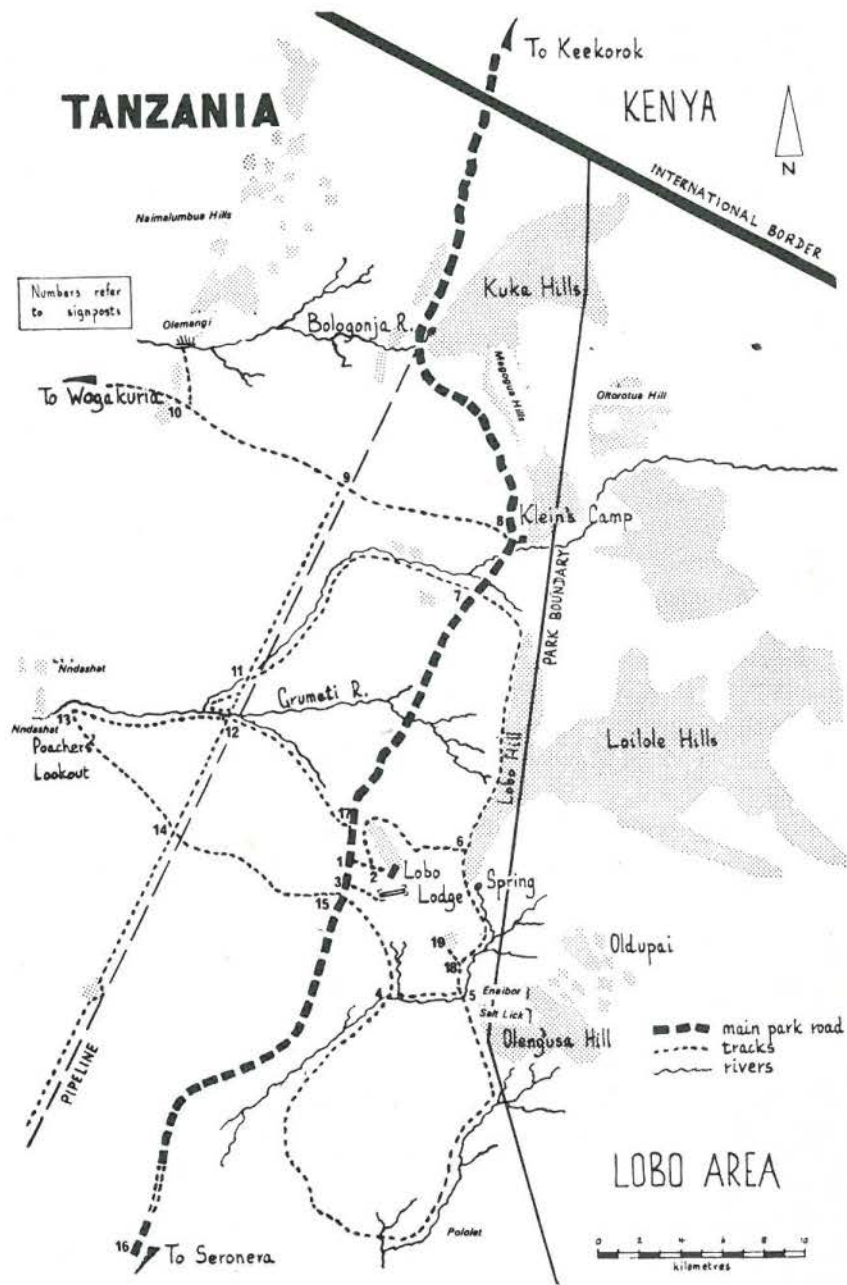
This is highland country, with elevations of up to 1830 m. above sea level, well provided with watercourses and springs such as that of Lobo itself which is situated 3 kms. to the east of the southern tip of Lobo hill.

The great herds of wildebeest make use of this part of the park from August until the start of the short rains in November, before they move down into the short-grass plains for the duration of the wet months. While in the area they cross and recross the Mara river in search of palatable grazing, and it is not uncommon for as many as fifty animals at a time to be drowned as the herds surge across the river, which is as much as ninety metres wide in places.

An estimated 25,000 buffalo are resident here, and it is possible to see herds consisting of as many as 1,500 individuals. A 1,000 strong herd is usually to be found in the vicinity of Lobo.

In the 40 kms. of the Mara river which are inside the Park you will see large numbers of hippo, especially at Kogatende, Lamai Guard Post and above the Mara causeway. They are at their most visible during the dry months of July, August, September and October when the river is at its lowest. There are a few crocodiles, but they are rather shy as they were very heavily trapped by poachers in previous years.

16 kms. downstream from Bologonja spring, which provides water for Seronera 80 kms. away, near the southern tip of Naimalumbua hills at a place called Olemangi, is a salt lick much used by animals. It consists of about $\frac{1}{2}$ a hectare of bare, wet earth in a seepage area near the river valley. This lick is evidently a more or less permanent feature, as it was seen by Stewart Edward White in 1913, and subsequently mentioned in his book.



Mountain (Chanler's) reeduck, *Redunca fulvorufula*, are to be found on Lobo hill, as on most of the higher ridges throughout the Park. They are very similar to the Bohor reeduck, but rather greyer in body colour. Both species are known as TOHE in Swahili.

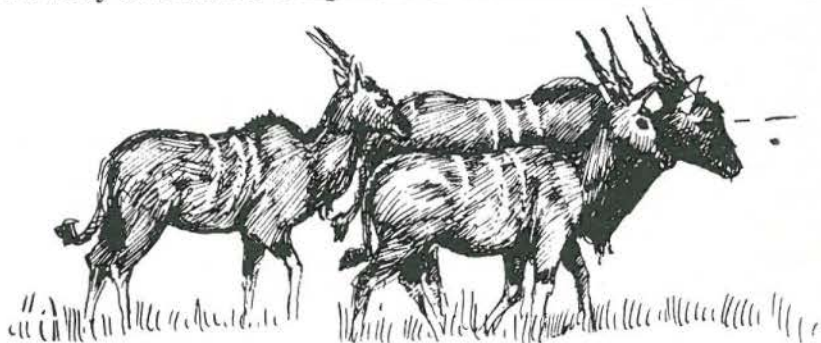
The Western Corridor

The western corridor road, which branches left from the Seronera-Banagi road 5 kms. north of Seronera, takes you eventually to the Park's Ndabaka gate near the shores of Lake Victoria, and is the route to Musoma and Mwanza. As you travel westward you will have the Grumeti river, which drains into Lake Victoria, to your right and, always in sight, the central ranges of hills. 30 kms. short of Ndabaka you cross extensive black clay plains. This soil, known as 'black cotton' is very impervious and therefore becomes waterlogged during the rains. During and just after the wet season you will see numbers of beautiful yellow and blue hibiscus plants flowering above the surrounding grass cover. Lake Victoria extended as far east as Kirawira at one time.

Whereas the short-grass plains are at their best during the rainy season the western corridor is more interesting during the dry months of June to October when, in any case, travelling is easier. 80 kms. from Seronera, on the shoulders of Mumugia hill, as well as at Banagi and in the Mara country lives a small herd of roan antelope, very rare in the Park but a fine sight if they can be exactly located. Roan, *Hippotragus equinus*, KORONGO in Swahili (Korongo is also the Swahili for valley and stork, so beware of confusion) are large rust-grey animals which stand about 140 cms. at the shoulder. They can be distinguished by the prominent black and white facial markings, long ears, rather wiry mane and the strong heavily ridged, backward-sweeping horns which are present in both sexes. They sometimes associate with wildebeest and zebra, but more often with eland *Taurotragus oryx*, POFU in Swahili.

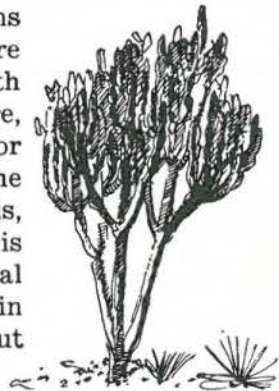


Patterson's eland, named after the author of 'The Man Eaters of Tsavo' who collected the type in 1906, is a large, rather cowlike antelope weighing as much as 900 kgs. and measuring nearly 2 metres to the top of the hump. In colour they are reddish-fawn with lateral stripes round the barrel of the body and have a conspicuous tuft of dark hair on the dewlap.



Both males and females have heavily spiralled or corkscrew horns which grow straight back from the head. Eland, like cattle, are very susceptible to rinderpest, a terrible disease of stock, and were nearly wiped out at the turn of the century when a severe epidemic struck East Africa. In ranching areas from which all wildlife has not been removed eland have been known to mingle with the cattle and even allow themselves to be herded into a stockade at night although being extremely good jumpers they could leap out if they wished.

The Candelabra tree, *Euphorbia candelabrum*, grows profusely in the Ndabaka area, as it does in many parts of the Park including Seronera. It often gains a foothold in the crevices of a kopje where its dark green, succulent leaves contrast with the grey of the rocks. Also growing here, though less common, is the MSWAKI or toothbrush bush, *Salvadora persica*, the stems of which, when chewed at the ends, make a very serviceable toothbrush. As this is hard to describe in a few non-technical words, it is best, if you are interested in seeing it, to ask your Guide to point it out and show you its use.



Known to nest in the Mbalageti valley are Martial eagles, *Polemaetus bellicosus*, another of the great birds of prey of the Serengeti, being second only in size to the Crowned eagle and the largest seen on the plains. This bird, ashy brown above and on the wings, has a distinctively white belly dotted with small brownish spots. It builds its nest, used year after year, in the top of the tallest tree in the neighbourhood where it lays a single large white egg. Martial eagles, as their name suggests, are aggressive birds, killing for food game birds, hyraxes and small buck. Often the ground beneath their nests is scattered with discarded bones and horns.

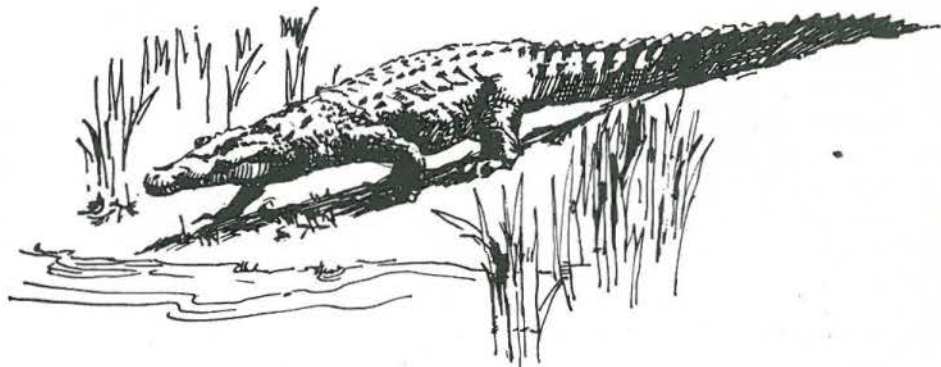


In the riverine forest bordering the Grumeti river Colobus monkeys are to be seen leaping from branch to branch with an almost flying action. MBEGA, as they are known in Swahili, are almost entirely arboreal, feeding on the leaves of the great trees in which they live. *Colobus polykomos*, with his black and white pelage, is unusual anatomically because of the absence of a thumb. He can often be detected as the troupe moves rather noisily through the branches overhead.

Colobus monkey fur figures in the regalia of some East African tribes, being worn as head-dress or cape. As a result these delightful, harmless creatures were much hunted in certain places and their skins greatly prized. An adult Black-and-white colobus measures around 80 cms. from the head to the root of the tail, while the tail itself is about another 100 cms. long. The very young, which like most primate 'babies' are relatively helpless at first, are entirely white. The throbbing chorus of a troupe of colobus may sometimes be heard reverberating through the treetops.

In the river itself are some exceptionally large crocodiles, MAMBA in Swahili. These great reptiles can be watched with safety as they bask on the sandbanks of the river, but do not venture too near the water's edge, as the most usual method by which crocodiles obtain their prey is by sweeping them off their feet with a scything motion of the tail,

whereupon they are caught in the vice-like jaws and drawn under water, often to be stored in an under-water cave until wanted, by which time the flesh may be decidedly putrid, a detail which seems to worry the crocodiles not at all.



The crocodiles here are rather shy of humans, which may account for the fact that they have survived to grow so large, so approach the river bank with a minimum of noise.

During the months of May and June very large numbers of topi congregate on the Ndoha plain, their main breeding ground in the park. This area is at present rather inaccessible, but if you are able to fly over the plain in a light aircraft you should see as many as 3,000 head concentrated in a small area.

Acacia mellifera, called 'wait-a-bit' thorn, grows along the corridor road.

Burning

Visitors are often perturbed at the sight of the widespread grass fires which blaze through the Serengeti and surrounding areas every dry season. Since time immemorial fires of this sort have swept almost the whole of the East and Central African wilderness area wherever inflammable material is on the ground. That is not to say that, because it is an old-established practice, it is necessarily beneficial, but it must be

remembered that much of the country we know today is probably, in part at least, a result of these very fires. The long-grass plains of the Serengeti would probably have been covered with trees and the savannah areas would have been more densely wooded today if there had never been annual burns.

Grazing animals, as the Maasai people know well, will not eat the long, rank grasses of the long-grass plains except after a fire has been through, when they readily graze the flush of young tender shoots which very soon appear.

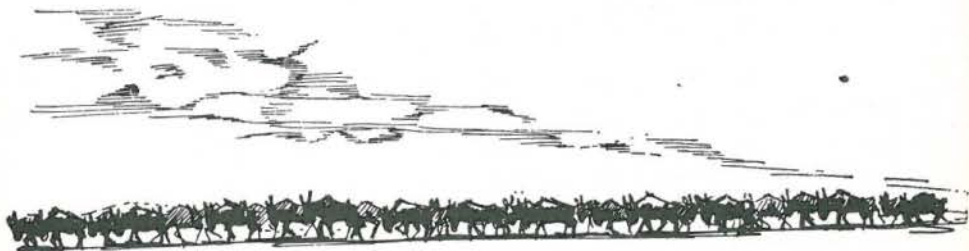
How each fire is started nobody knows: a carelessly tossed cigarette end, an uncontrolled camp fire, the activities of honey hunters, the clearing of an area by poachers, just plain pyromania or, most likely of all, the burning off by Maasai herdsmen outside the Park of the roughage their stock will not eat. The fact remains that never a year goes by without fires. They may even be a necessary part of the management of huge wilderness areas such as the Serengeti provided they are controlled in such a way that there is a constant succession of young grass for the herbivores.



The pros and cons of burning have been tossed back and forth by cattle men, farmers, foresters and wildlife conservationists for a long time but until recently, when ecologists came to grips with the problem, nothing definitive was known. In the Serengeti, the Research Institute is currently undertaking studies of the 'burning question'.

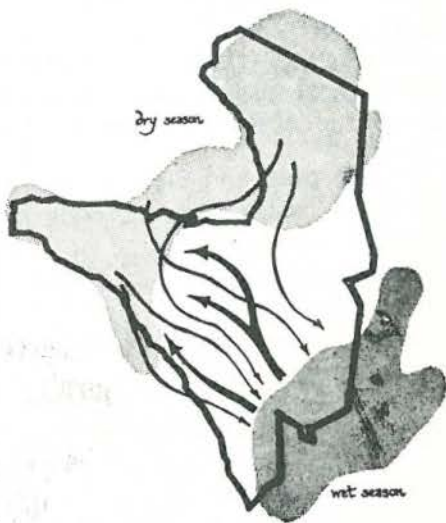
No doubt some of the smaller creatures are destroyed in bush fires, but generally speaking the larger animals, although of course they cannot control fire, have little fear of it, and actually make use of it. Gazelle are frequently seen grazing the newly sprung grass close to the line of fire, and many

insectivorous birds will fly miles to a burning area so as to eat the locusts and grasshoppers as they try to escape the blaze. In short, grass fires may or may not be necessary, but that they do not cause widespread suffering to the animals is indisputable.



The Migration

The wildebeest migration in the Park is a continuous, all-year-round movement of approximately 600,000 animals. In late May or early June, depending on the weather, the wildebeest move away from the short-grass plains between the Ngorongoro highlands and Seronera and gradually disperse throughout the bush country to the north and west of the Park where there is permanent water. Here they spend the next five months until, triggered by the coming of the short rains in November, they gradually form up into a number of columns and head to the short-grass plains again, thus completing the cycle. Calving takes place soon after arrival on the short-grass plains.



Many people, when referring to the migration, have in mind the spectacular movement at the end of May when the huge herds mass together for the start of their trek north and west. This is, certainly, a most wonderful sight, but unfortunately very difficult to predict exactly as it depends on such factors as the weather and the availability of water and grazing. In any case the main movement often only lasts three days and there may be a check caused by a sudden change in the weather, such as a heavy rain storm. Before the main exodus starts, however, the herds are a very spectacular sight, being massed in huge armies on the open plain. At such times they are probably quite as photogenic as when on the march. It is at this time that rutting takes place, the male animals patrolling and trying to maintain their harems of females.

Probably the best time to see the Serengeti wildebeest is from December through May when they are concentrated on the short-grass plains in the south of the Park. At this time they share the grazing with 200,000 zebra and over half a million gazelle together with attendant lion, cheetah, Hunting dog and hyena, not to mention the vultures soaring overhead. Nevertheless, during the dry season when dispersed throughout the northern and western part of the Park the wildebeest are still a fine sight. At this time there is heavy concentration at watering places, and therefore more chance of seeing predators at work.

In a normal year the easiest time to see the concentration of wildebeest and other plains animals is during January and February when conditions are drier and a saloon car can be used. During the two periods of November/December and March/April/May it may be essential to use a four-wheel-drive vehicle if you want to leave the hard roads. Landrovers can be hired at the Seronera Lodge, from which point it will be necessary to drive anything from a few kilometres to 100 in order to reach the concentrations. At times they are right in Seronera itself.

The Serengeti Research Institute

This Institute was founded in 1962 because of the great need for ecological research to provide the scientific information upon which to base sound management and conservation of the plants and animals of the National Parks of Tanzania.

The scientific policy and general direction of the work of the Institute is controlled by a Research Council through the permanent staff of Director, Deputy Director, Senior Ecologist and Administrator. Apart from the permanent staff there are work facilities for ten to twelve scientists who are based on the Institute while their studies are in progress.

Studies cover not only the ecology and behaviour of the large mammal species but also disease, parasitology and physiology. To provide essential information on the animals' habitats, geological and botanical studies are also being carried out.

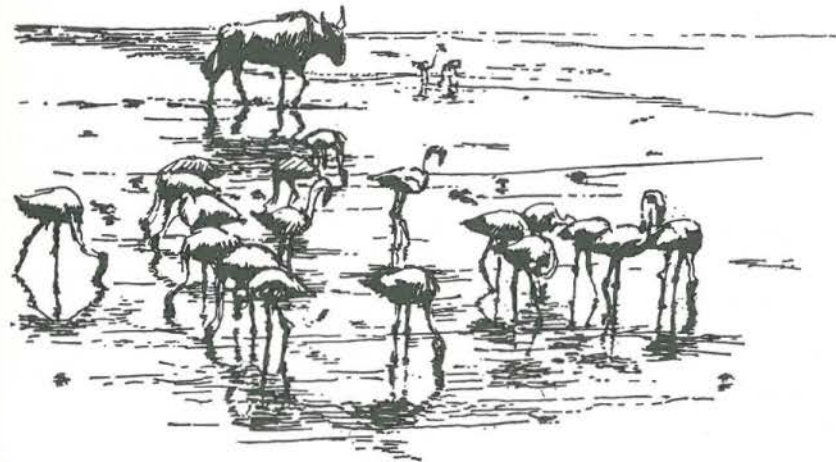
As mentioned in earlier sections of this booklet, such problems as elephant damage and burning are currently being examined.

The headquarters of the Serengeti Research Institute is at Seronera, based on the Michael Grzimek Memorial Laboratory. There are also a few scientists' houses at Banagi, 18 kilometres north of Seronera.

The Lakes

There are two shallow saline lakes in the Serengeti; Lagaja and Magadi. The Swahili word MAGADI means soda and is therefore a not uncommon name for lakes of this kind, notably the large Lake Magadi in Kenya.

The soda lakes are very shallow, rarely reaching a depth of more than two metres or so at the height of the rains, and as often as not drying up completely by the end of the dry season. They are formed in natural depressions in the land from which there is a very limited outlet for the surface water which carries into them various mineral elements, chiefly calcium, potassium and sodium.



When these lakes do dry up through evaporation they glitter with a white encrustation of salts which looks, at a distance, like a fall of snow.

The soda crystals, mixed with powdered tobacco, are used by some of the local people in the preparation of snuff which at one time was very popular in East Africa.

From the wildlife point of view the lakes are most notable for flamingoes, both Greater and Lesser, which feed on the minute plants and animals which live in the mud of soda lakes. These beautiful birds obtain their food by sieving mud and retaining the very small organisms by means of the comb-like structures on the edges of their bills. Because the occurrence of suitable flamingo food fluctuates, flamingoes move from lake to lake and their presence on any particular stretch of water cannot be guaranteed.

When the wildebeest are in the Lagaja area they often use the lake as a passage from one grazing ground to another, wading up to their hocks as they cut across.

Conclusion

An attempt has been made in these pages to give a brief description of the Serengeti and a few of the animals, birds and flowers which you are likely to see. Such a description is inevitably very superficial; of birds alone there are over 450 species recorded, and the list of flowers and grasses seems endless to those who are not botanically minded. Nevertheless, you may not, in one short visit, have seen everything mentioned in this booklet, but much time and patience are needed for a really successful study of such a large area. In any case, you are certain to have seen a great many interesting things which, for reasons of brevity, were left out of this publication.

Distances

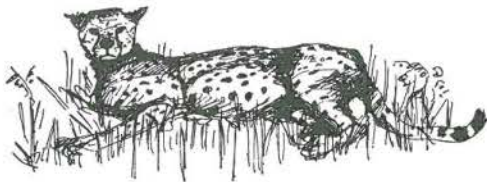
Seronera to: —		
Arusha	319	kilometres
Arusha National Park	355	"
Banagi	18	"
Gol Kopjes	48	"
Ikoma Fort	52	"
Keekorok	145	"
Kirawira	125	"
Klein's Camp	108	"
Lake Lagaja (Ndutu)	64	"
Lake Magadi	30	"
Lobo Lodge	75	"
Manyara National Park	200	"
Moru Kopjes	32	"
Musabi	72	"
Naabi Hill (Park Gate)	48	"
Nairobi via Arusha	610	"
Nairobi via Keekorok	418	"
Ndabaka	158	"
Ngare Nanyuki	48	"
Ngorongoro Crater	152	"
Sand River	137	"
Simba Kopjes	32	"
Tarangire National Park	273	"

Animal Populations

Estimates of the number of various species of animal are given below. In many cases it is extremely difficult, if not impossible, to make accurate counts, so the information given here should be considered as approximate only. There are 1½ million large mammals in the Serengeti.

Buffalo	60,000	Hyena	2,000
Eland	20,000	Impala	70,000
Elephant	2,200	Leopard	800
Gazelle Thomson's	600,000	Lion	1,500
Gazelle Grant's	50,000	Rhino	1,000
Giraffe	20,000	Topi	40,000
Hartebeest	20,000	Wildebeest (gnu)	500,000
Hippo	1,500	Zebra	200,000
Hunting dog	200		

In the case of species not mentioned, such as cheetah, it has been found impossible to make even a tentative guess.



Other Publications

For those with more than a passing interest in birds and animals, we suggest the following books:—

“Serengeti Shall Not Die” by Bernhard and Michael Grzimek, published in English by Collins.

“Serengeti National Park — Checklist of Birds” published by and obtainable through Tanzania National Parks. Available at the Lodges.

“Birds of Eastern and North Eastern Africa” by Praed and Grant, two volumes, published by Longmans.

“The Birds of East and Central Africa” by J. G. Williams, published by Collins.

“Animals of East Africa” by C. T. Astley Maberly, published by D. A. Hawkins Ltd., Nairobi.

Guide booklets uniform with this volume are obtainable for *Lake Manyara, Tarangire, Arusha, Ruaha and Mikumi National Parks*. The Serengeti booklet is printed in German as well as English. They are published by and are available through Tanzania National Parks, Box 3134, Arusha, and at Park gates and Lodges.

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