

1977

NYALA 3(2):29-38. Original citation. Copy below changed due to reformatting.

## LIWONDE NATIONAL PARK PART II - THE MAMMALS

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### INTRODUCTION

This is the second of a series of articles describing Liwonde National Park (see Dudley & Stead 1976). The objective is to summarize the historical accounts of the mammal species of the Liwonde area and to provide an annotated check-list. With the exception of elephant, no systematic analysis of mammal populations has been attempted. All current information is based on occasional sight records by members of the Liwonde Research Committee,

### HISTORICAL RECORDS

Accounts of the fauna of the Upper Shire Valley, including the area now included in Liwonde National Park, are scarce and may have suffered from exaggeration. Yet, it is clear that Malawi's large mammal species were well represented in the Valley. Since these early records, the large mammal populations declined up until the time of the establishment of the National Park in 1972. The cause of this decline was undoubtedly due to the combination of the introduction of firearms, uncontrolled hunting and habitat reduction through cultivation.

Hobbs (1976) examining the writings of 19th and early 20th century hunters and explorers has put together a thorough account of the history of the wildlife of the Upper Shire Valley. Many of the historical records included here were taken from his paper,

*Nineteenth Century:* The earliest written record we have is that given by Captain Faulkner (1868) while accompanying Lt. E.D. Young in his search for David Livingstone. Faulkner describes his journey by boat up the Shire River to Lake Malawi and his subsequent return, by foot, down the east bank of the River from Lake Malombe (near Mvela) to the Shire Rivi Rivi confluence. His is the viewpoint of the hunter with its tendency for exaggeration, yet, his account does provide us with the species of large mammals encountered in the area and some idea of their general abundance.

Of the area now called the Chikalogwe Plain, just a few miles north of the present Liwonde Township, Faulkner writes, "Half an hour's walk brought me out of this strip of forest and again I found myself traversing an extensive plain . . . the grass had been burned and the waterbuck, pallahs (sable?), reed-buck, gazelles (?), might be seen wherever I looked, as far as the eye could reach . . . everywhere. . . herds of antelope were to be seen. . . The glasses now showed me that there were many hartebeest amongst their number. . . there seemed to be at least a hundred of them (buffalo). . . I never saw such quantities of game. . . The soil was dry and sandy and covered with the footprints of almost every kind of game. I do not believe that there is such another field for the Sportsman. . . as the banks of the Upper Shire,"

According to Watson (1973) the 1870's saw the area increasingly visited by elephant hunters and in 1884, O'Neill claimed the land west of Lake Chiuta (less than 25 miles east of the present Park) was "unquestionably the best game country

(he had) passed." A few years later, Drummond (1902) reported vast herds of zebra, just east of the Shire, on the Chilwa Plains. In 1890, hippo were so numerous and destructive along the Upper Shire River, that H. H. Johnston recommended that they "should be mercilessly exterminated".

The last decade of the 13th century was perhaps a turning point for some of the larger mammals of the area. The campaign against the hippo proved to be so effective that by the end of the century few hippos were encountered along the upper River (Johnston 1897, Vaughan-Kirby 1899). Another animal, the Nyasa Brindled Gnu an inhabitant of the plains of Chilwa and neighbouring regions, was reported by Johnston (1894) to be declining drastically in numbers. Elephant were also under intense pressure throughout the country. "Official" ivory export figures showed 42,495 pounds exported from Malawi in 1893. Unofficially, of course, the amount was much higher,

The attitude towards wildlife in the 19th century is best summed up by R.C.F. Maugham (1894) who wrote, "We had our small distractions of course and of these the most enjoyable were week-end hunting trips down in the plain below Zomba."

*Twentieth Century:* In spite of the intense hunting activities of the 19<sup>th</sup> century, large mammals were still considered abundant in the Upper Shire Valley (Murray 1908). Dennis Lyell (1912, 1913, 1923) writing of his hunting trips near Matopa and Balaka, preferred this region to British East Africa as "the game regulations of Nyasaland are much more liberal." In defence of these soft regulations he states that there was "still plenty of game. It would be almost impossible to kill it all off in a short space of time as some people imagine" (Lyell 1912).

In spite of the general optimism regarding wildlife populations, there were already signs of their impending decline. Both Werner (1906) and the *Nyasaland Handbook* (Murray 1908) had already recorded that "Elephant were less numerous than they were forty years ago" or were "merely roving herds". And, in 1922, the *Nyasaland Handbook* (Murray 1922) could report that where "some years ago big game was very numerous. . . there is now very little game left and what there is, is very scattered." Subsequent accounts (Wood 1932, Muldoon 1957, Carr 1965) indicate that this decline in the wildlife community continued up to the establishment of Liwonde National Park in 1972.

With the development of organized protection in 1972 the populations of the remaining large mammals have noticeably increased. In future years, species such as buffalo, hartebeest, and zebra may be re-introduced, eventually establishing a wildlife spectrum similar to that of Faulkner's day,

### ANNOTATED CHECK LIST

The following check list incorporates current information available on the status of the mammals of Liwonde National Park. In addition, notes are given on species thought likely to have occurred in the Park's area in historical times but which are now locally extinct. The latter are noted by an asterisk (\*).

The following information is included for each species:

Common/Scientific name: The source is Sweeney (1959).

Habitat: The habitat classification has been simplified from the formations listed in Dudley & Stead (1976) and these are abbreviated as follows:

swamps (S), flood plain grassland (G), mopane woodland/savannah woodland (MW), hill woodland (HW), dry forest/thicket (DF), and riverine forest/thicket (RFJ).

**Abundance rating:** The abundance ratings were taken from Hanks (1972). These rankings are very subjective and do not take into account ecological limitations (e.g. the lion, at the top of the food chain, will never be abundant in Liwonde). The ratings and their abbreviations are as follows:

abundant - 200+ (A), common - 100 to 200 (C), fairly common - 50 to 100 (FC), rather scarce - 10 to 50 (RS), scarce - less than 10 (S), and absent (Ab).

**Ease of observation:** These ratings are again taken from Hanks (1972) and indicate the likelihood of visitor observation during the dry season months of August to November. The ratings and their abbreviations are as follows:

seen by all (SA), seen by most (SM), seen by few (SF), and seen rarely (SR).

**Special comments:** Included here are historical or current notes of interest regarding the animals' distribution or abundance.

The orders Insectivora (shrews) and Chiroptera (bats) are little known and each will be described as a whole rather than species by species. The only taxonomic category higher than genus included in this check list is order. Finer divisions (e.g. family, tribe) would complicate and lengthen this paper unduly. The species are in the order listed by Sweeney (1959).

#### INSECTIVORA (SHREWS)

Few records exist as the animals are nocturnal. One species, the four toed elephant shrew, *Petrondromus tetradactylus* Peters, is common and has been seen at night on the main north-south road of the Park within the mopane woodland and riverine forest formations. It may be associated with small termitaria thickets,

#### CHIROPTERA (BATS)

Three unidentified species have been seen and undoubtedly a larger number occur. In addition to natural roosts, bats have been seen on old walls of abandoned villas, in road drainpipes, and in houses of Park employees.

#### PRIMATES (GALAGOS, MONKEYS)

Lesser galago, *Galago senegalensis* E. Geoffroy /RF/?/SR/  
One unconfirmed sighting at Mwalasi.

Greater galago, *G. crassicaudatus* E. Geoffroy /RF/?/SR/  
A few night calls have been heard but no individuals have been seen.

Yellow baboon, *Papio cynocephalus* (L.) /MW, HW, edge of G/A/SA/  
Troop sizes over 50 are common, particularly in the southern part of the Park.

Vervet Monkey, *Cercopithecus aethiops* (L.) /RF/C/5M/  
Troop size varies between 5 and 20. Most sightings are at Mwalasi and Makanga,

#### CARNIVORA (JACKALS, CATS, HYAENA, ETC.)

Side-striped jackal, *Canis adustus* Sundevall /MW, RF/RS/SR/  
The few sightings (all nocturnal) come from the southern boundary near the Likwenu River. Jackals were reported as "much in evidence" in the area in 1922 (Murray 1922).

Hunting-dog, *Lycaon pictus* Temminck /-/Ab/-/

Last sighted in 1975 (a group of four). In 1922 (Murray 1922) they were reported as being "very numerous and often drive the game away from their usual feeding places". It is doubtful if the Park will again contain this species. The area is too small for such a mobile animal and the territory outside the Park is now unsuitable due to widespread cultivation.

Ratel, *Mellivora capensis* (Schreber) /HW, RF/RS/SR/

Only one observation (nocturnal) of two individuals near the Likwenu River.

Spotted-necked otter, *Lutra maculicollis* Lichtenstein /S/RS?/SR/

Seen only once in the Shire at Makanga.

Cape clawless otter, *Anonyx capensis* (Schinz) /S/RS?/SR/

Seen only once just above Liwonde Township.

Civet-cat, *Viverra zibetha* Schreber /MW, RF/RS/SR/

Occasional nocturnal observations of individuals near Chiunguni Hill.

Genet, *Genetta* sp /MW?/RS/SR/

Species indistinguishable in the field. Unconfirmed observations only.

Egyptian mongoose, *Herpestes ichneumon* (L.) /MW, RF/S/SR/

One observation of pair at water hole, several miles east of the Shire.

Slender mongoose, *H. sanguineus* Ruppell /MW, RF/RS/SF/

Occasional records of groups of 2 or 3 throughout the Park.

Banded mongoose, *Mungos mungo* (Gmelin) /MW, RF/RS/SR/

Several sightings of groups of 5 to 10 in woodland near the Shire.

Selous's mongoose, *Parachnictis selousi* Roberts /

Single unconfirmed observation. If correct it will be a new record for Malawi. Sweeney (1959) says that it probably occurs in Malawi.

Spotted hyaena, *Crocuta crocuta* (Erxleben) /MW, G, RF?/RS/SR/

Spoor and dung regularly seen throughout the Park. Also heard often at night. Only one observation (individual). In time past, according to Vaughan-Kirby (1899), hyaena were "to be met' with in astonishing numbers."

Lion, *Panthera leo* (L.) /MW, G/S/SR/

North of the Park, the Namwera/ Mangochi Districts have been traditionally regarded as areas in which lions are relatively numerous, including a number of man-eaters (Hobbs 1974). In the last three years at least two family groups have moved into the Park and are now probably resident.

Leopard, *P. pardus* (L.) /RF, HF?/S?/SR/

Because of their nocturnal habits they are rarely seen. Habitat records reflect recent sightings.

Wild cat, *Felis lybica* Forester /RF?/S/SR/

One sight record at Mwalasi but dung is found occasionally in woodlands.

NOMARTHRA (PANGOLINS)

Ground pangolin, *Manis temmincki* (Smuts) /MW/S?/SR/

TUBULIDENTATA (ANT BEARS)

Aardvark, *Drycteropus afer* (Rallas) /MW/RS/SR/

There are no sight records though their burrows in termitaria are common throughout the Park.

LAGOMPRPHA (HARES)

Scrub hare, *Lepus whytei* Thomas /MW, RF/A/SM/

Very common near human habitation in the Park. Often seen on the roads at night.

RODENTIA (SQUIRRELS, RATS, PORCUPINES, ETC.)

Bush squirrel, *Paraxerus cepapi* (A. Smith) /MW/A/SA/

Spiny mouse, *Acomys canirinus* (Desmarest) /MW/

Known from trappings only. There are many other species of small rodents within the Park but field identification is nearly impossible.

Great cane rat, *Thryonomys swinderianus* (Temminck) /RF, S?/SR /

Known only from faecal material.

Cape porcupine, *Hystrix africaeaustralis* Peters /RF, MW, HW/FC?/SR/

No sight records but quills and droppings common.

PROBOSCIDEA (ELEPHANT)

African elephant, *Loxodonta africana* (Blumenback) /All habitats/A/SM/

In the dry season they congregate close to the Shire River (groups of 50 to 80 occasionally seen). A large proportion of the population is young and the population is increasing. An aerial survey made in November 1977 gave a total count of 201 (an additional small percentage were probably not seen). It is unknown if and how many elephants migrate outside the Park (e.g. to the Namizimu and Magochi Forest Reserves). The elephants in this Park are known to be particularly aggressive and Muldoon (1957) explained this aggressiveness by their proximity to the urban of Blantyre and Zomba and their being an "irresistible temptation to amateur elephant hunters . . . nearly every animal carries old shot wounds",

ARTIODACTYLA (PIGS, HIPPO, ANTELOPE)

Bush pig, *Potamochoerus porcus* (L.) /MW/FC/SR/

Rarely seen as usually nocturnal. Dung common.

Wart hog, *Phacochoerus aethiopicus* (Pallas) /MW, G/C?/SA/

Last two years very common, family groups with 7 or more individuals often seen.

Hippopotamus, *Hippopotamus amphibius* L. /S, G, RF, MW/A/SM/

Large numbers seen by boat, but few are seen from land due to the extensive swamps. During the wet season some individuals occupy seasonal water holes in the mopane woodland several miles east of the Shire. The construction of the Kamuzu Barrage may have increased its habitat.

Common grey duiker, *Sylvicapra grimmia* (L.) /MW/C/SF/

Sharpe's grysbok, *Raphicerus sharpei* Thomas /

Several unconfirmed sight records exist. The species definitely occurs near Mangochi.

Livingstone's suni, *Nesotragus moschatus* Von Dueben /MW, DF?/RS?/SR/  
Few sight records. Mostly noted by droppings,

Oribi, *Ourebia ourebi* (Zimmermann) /G/RS/SM/  
Regularly seen in groups of 2 or 3 individuals on the Chikalogwe Plain and the Mwalasi Dambo.

Klipspringer, *Oreotragus oreotragus* (Zimmermann) /HW/S/SR/  
Little suitable habitat.

Reedbuck, *Redunca arundinum* (Boddaert) /G/RS/SM/  
Groups of 6 to 12 individuals now regularly seen.

Waterbuck, *Kobus ellipsiprymnus* (Ogilby) /G, MW (during rains)/C/SA/  
Becoming more numerous. Groups of 30 to 40 individuals are seen on the Chikalogwe Plain during the dry season.

Impala, *Aepyceros melampus* (Lichtenstein) /MW/C/SM/  
Although large groups are now being seen (up to 30), it is surprising that populations are not higher, considering the widespread favourable habitat and several years' protection.

Sable, *Hippotragus niger* (Harris) /MW, G/A/SA/  
Probably the most common antelope. During the aerial survey of elephant, large numbers of sable were seen. Their numbers certainly total more than 300 and recently groups of 50 and 80 have been counted. It seems that Liwonde is ideal habitat as several historical accounts (Faulkner 1866, Murray 1908, 1922) note sable as being extremely abundant in this area.

Lichtenstein's hartebeest, *Alcelaphus lichtensteini* (Peters) /MW, G?/Ab/-/  
The historical accounts (Faulkner 1868, Murray 1908, 1910, 1922, Hall-Martin 1969, Hayes 1972) all record hartebeest within the Park's area. However, it has not been seen in the Park in the last six years and is considered locally extinct. According to Smithers (1966), their curiosity makes them easily shot, certainly a contributing factor in their disappearance. They are a prime candidate for re-introduction.

Eland, *Taurotragus oryx* (Pallas) /MW, G?/Ab/-/  
Again, the historical accounts (Murray 1908, 1922, Colville 1911) report eland to have been numerous in the area of Liwonde. The 1908 Handbook reported that "Eland abound everywhere and can be seen in herds of 40 to 50 animals" in the Upper Shire Valley. Peripheral villagers say that this species was common in the past but is no longer seen (Hobbs 1976). Another possible species for re-introduction.

Bushbuck, *Tragelaphus scriptus* (Pallas) /RF, MW (thickets), DP?/FC/SM/.

Nyala, *T. angasi* Gray /DF?/Ab/-/  
There are no definite records of its existence in Liwonde. However, in 1893 a specimen was shot near Zomba, in 1905 specimens were shot at Dowa, Lilongwe, Zomba, and Dedza, and in 1906 eleven nyala were shot near Mangochi (Sidney 1965). According to recent research in Mocambique nyala do not require thicket,

being an animal of more open areas. Both suitable habitats occur in Liwonde and the nyala may be a suitable introduction.

Greater Kudu, *T. strepsiceros* (Pallas) /MW/C/SM/

The Upper Shire Valley has always been a good area for Kudu. Murray (1908) reported them to be "more numerous (here) than in any other parts of the protectorate". Early in the 20th century, Liwonde gained a reputation for having some of the finest specimens (Lyell 1913). In the last two years groups of 10 to 15 have occasionally been seen.

Nyasa brindled gnu, *Connochaetes taurinus johnstoni* Sclater /G, MW?/Ab/-/

There is no evidence that this subspecies ever occurred in Liwonde but it originally occurred in some numbers on the nearby northern plains of Lake Chilwa and Crawshay (Sidney 1965) found spoor four to five miles north of Matope. The animal has been thought to be extinct in Malawi since 1925 (Hayes 1972b) and an introduction into Liwonde would be a great attraction. However, until better knowledge of its habitat requirements is known, introductions should not be attempted. The tall grasslands of Liwonde may be unsuitable.

(\*) African buffalo, *Syncerus caffer* (Sparrman) /MW, G/Ab/-/

According to historical records and information from nearby villagers (Hobbs 1976) buffalo used to be common in the Park area. But, there have been no sightings since 1960. Buffalo are common in other parts of Malawi and probably will be re-introduced soon.

PERISSODACTYLA (RHINO, ZEBRA)

(\*) Black rhinoceros, *Diceros bicornis* (L.) /MW?/Ab/-/

Rhino were reported to occur in small numbers in most of the area surrounding what is now Liwonde National Park (Zomba District (Duff 1906), Chilwa Plains (Johnston 1894, Maugham 1894)). The most pertinent record is found in the *Nyasaland Handbook* of 1922 (Murray 1922) which says that "rhinoceros would occasionally be tracked to the Masanje River". The lower elevations of the Masanje pass through the Park. Rhino might successfully be introduced.

(\*) Burchell's zebra, *Equus burchelli* (Gray) /G/Ab/-/

Again, another species with an old historical record of being extremely abundant (Faulkner 1868, Johnston 1894) but peripheral villagers report that few have been seen in recent years (Hobbs 1976). The last sighting by the Park staff was a group of four near Chiunguni Hill in 1971. This animal would be a very suitable species for re-introduction.

#### ACKNOWLEDGEMENTS

We would like to thank Mr. J. Hobbs for his initial summarization of the early historical records regarding the diversity and abundance of the larger mammals in the Liwonde area. His work was extremely valuable to us in writing our account. We also would like to thank the Game Scouts of Liwonde National Park for their assistance on field counts and identification.

This work has been supported by grants from the Malawi Department of National Parks and Wildlife and the University of Malawi. We are most grateful for their support

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