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E. — MOUNTAIN HEATH

LAGOMORPHA

Lepus europaeus victoriae Thomas. Hare.

RODENTIA

Rhabdomys pumilio diminutus (Thomas). Four-striped Grass Mouse.
Rattus chrysophilus singidae Kershaw. Bush Rat.
Tachyoryctes daemon Thomas. Mole Rat.

CARNIVORA

Felis serval hindei Wroughton. Serval.
Panthera pardus (Linnaeus). Leopard.

PERISSODACTYLA

Diceros bicornis (Linnaeus). Rhinoceros. — Such rhino are based on the forest and wander out on to the « heath » zone.
Equus burchellii bohmi Matschie. Zebra.

ARTIODACTYLA

Potamochoerus porcus daemonis Major. Bushpig. — Status as for rhino, above.
Oreotragus oreotragus schillingsi Neumann. Klipspringer. — In rocky situations.
Redunca fulvorufula chanleri (W. Rothschild). Mountain Reedbuck.
Kobus defassa adolfi-friderici (Matschie). Waterbuck.
Tragelaphus scriptus dama Neumann. Bushbuck.
Taurotragus oryx pattersonianus Lydekker. Eland.
Syncerus caffer (Sparrman). Buffalo. — Status as for rhino above.

THE PRESENT-DAY STATUS OF UNGULATES
IN NORTHERN RHODESIA

COMPILED BY

Major I. R. GRIMWOOD
 Assistant Director

and

C. W. BENSON
 Biologist

with the assistance from

W. F. H. ANSELL
 Senior Ranger

and other members of the Department of
 Game and Tsetse Control, Northern Rhodesia

The primary purpose of this paper is to assess the extent to which the Ungulates, in which the Elephant and the Dassies are included, are holding their own in Northern Rhodesia to-day. Special attention is paid to the position in the Kafue National Park and in Game Reserves, which form their main refuge, and the boundaries of which are shown on the accompanying map.

The nomenclature followed, both scientific and trivial, is that of Ellerman *et al.*, 1953, largely amplified for local details of distribution from Lancaster, 1953.

Specific names only are shown in the headings. No very detailed discussion of races is entered into, since this is not the purpose of this paper. Nevertheless, they are mentioned in the text of each species. There is much to be learnt on the subject of geographical variation, not least in Northern Rhodesia, where there has been no collecting of Ungulates on the scale of that done by the expeditions of Rainey, or Roosevelt and Heller, in East Africa, or the Vernay-Lang Kalahari Expedition. While it is a relatively simple matter to preserve series of the smaller mammals, this is far from being so in the case of the larger Ungulates. There is the further difficulty, that the specimens may be in museums widely dispersed.

This paper covers the majority of animals (excluding birds) that are completely protected, or for the hunting of which a licence is required, under the Fauna Conservation Ordinance. Some information as to the status of each species of Ungulate under the

29. Eland (*Taurotragus oryx*).

Eland are widely but sparsely distributed, and are represented in the Kafue National Park and all the larger Game Reserves. But they have been exterminated from many areas where formerly they were relatively common. On the other hand, their numbers are now believed to be increasing in the Luangwa Game Reserve, and herds of up to 100 are not uncommon.

In 1950 Eland were placed on the protected list, but responded so satisfactorily in most areas that in 1957 one male only was restored to the Supplementary Licence except in the Northern Province.

The local race is *T. o. livingstonii* (Sclater).

30. Buffalo (*Syncerus caffer*).

Buffalo are still widespread, and occur in great numbers in the Luangwa Valley and the Kafue National Park. It seems safe to say that the population of the territory as a whole is not less than 40,000, of which at least 15,000 are to be found in the Luangwa Game Reserve and 10,000 in the Kafue National Park. They occur in all the other larger Game Reserves. The numbers for Mweru Marsh and Sumbu have been estimated at 3,000 and 2,000 respectively.

Four animals may be hunted on an Ordinary or African Game Licence, except in the Western Province, where only two are allowed. *S. c. caffer* (Sparrman) is widespread. But in the Mweru Marsh and Sumbu Game Reserves a proportion of animals (some 20 %) are markedly rufous in tone, and it may be that there is some tendency towards *S. c. nanus* (Boddaert).

31. Black Rhinoceros (*Diceros bicornis*).

In the past fifty years there has been a sharp decline in the numbers of this animal in the territory, and to-day it is unlikely that the total population can exceed 1,000. In the Luangwa Game Reserve there may be as many as 350, and the population of the Luangwa Valley as a whole 500. In the Kafue National Park they exist in much smaller numbers, probably less than 100 in all, while there are perhaps fifteen in the North-west corner of the Mweru Marsh Game Reserve. They may also survive in very small num-

bers in the Kasempa District, east of the East Lunga River towards the Ndola border, while in the Central Province they have been reported from the Zambesi Valley at Chiawa and the Mpato Gorge, in the Luano Valley, and on the Chongwe River (Lusaka District).

The hunting of Black Rhinoceros is totally prohibited. It is the nominotypical race which occurs in Northern Rhodesia.

32. Burchell's Zebra (*Equus burchelli*).

At the beginning of the century, this zebra was abundant throughout the territory. To-day large numbers are only to be found in the Kafue National Park and the Luangwa Game Reserve, and on the Kafue Flats. It also occurs in most other Game Reserves, but has otherwise largely disappeared. Four may be hunted on an Ordinary or African Game Licence, but only one is allowed in the Eastern and Northern Provinces, and two in the Central, Western and North-Western Provinces.

E. b. boehmi Matschie appears to be the race ranging through the greater part of the territory, but is apparently replaced in Barotseland by *E. b. antiquorum* (Hamilton Smith) and perhaps east of the Luangwa River by *E. b. selousi* Pocock.

LITERATURE CONSULTED

(excluding references already in full above)

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- ELLERMAN, J. R., MORRISON-SCOTT, T. C. S., and HAYMAN, R. W., 1953. — Southern African Mammals.
- LANCASTER, D. G., 1953. — A Check List of the Mammals of Northern Rhodesia.
- PITMAN, C. R. S., 1934. — A Report on a Faunal Survey of Northern Rhodesia.
- Also: Fauna Conservation Ordinance, Chapter 241 of the Laws of Northern Rhodesia, 1956 Edition (including subsidiary legislation enacted not later than 31st March 1957).

APPENDIX

Information extracted mainly from the First and Second Schedules to the Fauna Conservation Ordinance. Note that a « resident » means a person resident in Northern Rhodesia, a non-resident = a person resident elsewhere.

FIRST SCHEDULE

PART I

(Ordinary Game Licence, £5 for resident, £20 for non-resident; African Game Licence, 5/-)

Species	Number permitted	Qualifications
Buffalo	4	2 only in Western Province.
Bushbuck	4	1 only in Eastern Province.
Grey or Common Duiker	8	
Sharpe's Grysbok	2	
Hartebeest	2	None in Eastern Province; 1 only in Serenje and Mkushi Districts.
Impala	4	Males only; 2 only in Southern Province.
Greater Kudu	4	Males only; 1 only in Mpika District.
Oribi	1	None in Central Province or in Choma, Kalomo, Livingstone and Mazabuka Districts.
Puku	2	None in Southern Province.
Reedbuck	2	Males only; none in Eastern Province; 1 only in Mpika, Serenje and Mkushi Districts.
Steinbok	1	
Waterbuck	2	None in Southern Province.
Warthog	2	
Blue Wildebeest	4	2 only in North-Western Province.
Zebra	4	2 only in Eastern and Northern Provinces; 2 only in Central, Western and North-Western Provinces.

PART II

(Supplementary Game Licence, £10 for resident, £20 for non-resident).

Species	Number permitted	Qualifications
Blue Duiker	1	
Yellow-Backed Duiker	1	
Eland	1	Male only; none in Northern Province.
Klipspringer	1	Male only.
Roan Antelope	1	Male only.
Sable Antelope	1	Male only; none in Eastern and Northern Provinces or the Serenje and Mazabuka Districts.
Sitatunga	1	Male only; none in Southern Province or Serenje District.
Tsessebe	1	Male only.
Cookson's Wildebeest	1	Male only and only in Lundazi District.

PART III

This deals only with elephant. Anybody, whether he be European or African, must in the first instance take out an Ordinary Game Licence. An Elephant Licence costs £15 per elephant for a resident, or £25 for a non-resident, with a maximum of two elephants.

SECOND SCHEDULE

The hunting of the following ungulates is prohibited throughout Northern Rhodesia: Giraffe, Hippopotamus, Lechwe, Black Rhinoceros. Also, the hunting of Elephant is prohibited in the Chingola and Bancroft Districts. Hunting of females of the following is prohibited throughout the territory: Eland, Impala, Klipspringer, Greater Kudu, Reedbuck, Roan Antelope, Sable Antelope, Sitatunga, Tsessebe, Cookson's Wildebeest.

ON THE PRESENT STATUS OF UNGULATES IN SOUTHERN RHODESIA

BY

A. D. FRASER

*Game Officer, Game Section, Dept. of Mines, Lands and Surveys
Southern Rhodesia*

Large tracts of land in the Colony today can only be described as faunal deserts. The wild animal population, excepting elephants, is poor. This state of affairs is not surprising having regard for the fact that over 620,000 head has been destroyed in anti-tsetse fly operations. Other causes for the decline in numbers are the opening up of land in the lowveld for agriculture, the sub-division of high veld farms into smaller units and the increase in population.

Excluding the Wankie National Park, good game concentrations are limited to the Kariangwe/Lubu area of the Sebungwe, the Rekomitje/Angwa area of the Zambesi Valley and the Gono-re-Zhou in the Ndanga and Nuanetsi Native districts. Small pockets of game exist in isolated areas, such as the unalienated Crown land on the Mkwasini River in the Bikita and Ndanga Native districts, but even these pockets are limited in numbers and distribution.

The notes on each species which follow should be read in the light of the remarks passed in paragraphs above.

Elephant (*Loxodonta africana*).

The Colony has a large population of elephant which is well distributed although largely confined to those Native districts bordering other territories. It is estimated that the population is in excess of 10,000 animals roughly distributed as follows: