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Editorial and Society Notices

THE article by Mr. P. Hall, printed in this issue, describes in detail the most thorough and comprehensive piece of State planning for the conservation and utilisation of West African wild life that has come our way. It will be most interesting to learn, in due course, how far these plans can be put into successful operation in the rather remote and difficult terrain of North-Eastern Nigeria.

The article on the origins of Babanki, alias Kijom Kitingo, included in this issue, may be regarded as the last gift of a great friend of this Society and journal, who contributed more items to our pages than any other individual has done. But it also has definite historical significance, being typical of dozens of similar enquiries that took place in the late twenties and early thirties all over S.E. Nigeria and that part of Cameroun then administered by Nigeria. The "Warrant Chief" system was proving to be a failure, and strenuous efforts were being made to ferret out, in every village group, clan or sub-tribe, indigenous methods of ordering community life and the framework of tradition and religion supporting them. Large fragments of history and a fascinating assortment of local legends, customs and religious and ancestral observances were unearthed by this process—of which Dr. Jeffreys's notes reproduced here are fairly typical, except that he has also drawn on the work of a local historian.

We welcome a new Vice-President, Mr. A. M. Oseni, who has for many years been a good friend of the Society and a keen supporter of the Ibadan Branch.

On our inside back cover readers will find particulars of several courses being run inexpensively by the Horniman Museum, London Road, Forest Hill, London SE23 3PQ. Further details are available from the editor. A special programme, "Music and Musical Instruments in the World of Islam," continues at this Museum until 6th October. Admission is free.

The Nigerian Field, 41 (3)

Sept. 1976

Priorities for Wildlife Conservation in North-Eastern Nigeria

by P. Hall
(Ecologist, North-Eastern and Borno States)

With three photographs and a map

BACKGROUND

A PART from the long-established Yankari Game Reserve, the former North-Eastern State Government had two projects in the 1975/80 Development Plan concerned with the conservation of wildlife, namely a project geared to the establishment of new game reserves in the State and a separate project for the control and utilisation of wildlife outside game reserves.

The "New Game Reserves" project was conceived to develop as game reserves five new areas, which had been found during surveys made by wildlife biologists to have potential for development, and which needed immediate strict protection; a sixth area, Gashaka/Gumti, existed as an independent project under the previous Development Plan but is now included in this project. The total area involved is 3840 square miles (Fig. 1).

The "Wildlife Management and Control" project is a continuation of a project which had its inception during the 1970/75 Development Plan, its purpose being to ensure the conservation, wise use and development of wildlife and its environment; to control and manage marauding animals where necessary in order to protect human lives and farm crops; to enforce wildlife laws and regulations including the control of hunting. These responsibilities are in line with national policy and our international obligations as signatories of the African Convention for the Conservation of Nature and Natural Resources.

DEVELOPMENT OBJECTIVES

(a) New Game Reserves Project

This project will develop the proposed reserves along the following lines:

(1) Gashaka/Gumti Game Park

This Game Park in Gongola State, comprising the Gashaka and Serti Game Sanctuaries in Mambilla Division and the Gumti Game Sanctuary in Ganye Division, is being reserved following recommendations by United Nations and State officials for total protection of the fauna, the habitat and, of prime importance, the catchment area of the river systems. The reserve covers an area of approximately 2500 square miles and features a wide diversity of

habitat types ranging from Guinea savannah and open grassland to riverine gallery forest, rain forest and montane grassland; the terrain is extremely rugged with nearly 50 per cent of the reserve mountainous and over 3,500 feet in altitude, which combined with the presence of perennial water throughout the reserve provides for a rich and diverse fauna.

Despite heavy hunting pressure in the past, the reserve has an array of viable game populations with several rare species, including giant forest hog, yellow-backed duiker and chimpanzee; giant eland are reported to occur in the Toungo Plains area whilst rhinoceros, giraffe and elephant are common in the nearby Parc National du Faro in Cameroun and natural re-stocking of these species could occur. The variety of birds to be found is also extensive as is to be expected with such a wide habitat diversity. However, problems of access and the dense vegetation and cover make viewing of animals difficult and tedious, so that much of the reserve is unsuitable for ordinary game-viewing. Only the central area of the reserve at present has sufficient concentrations of game to attract visitors as soon as access is made available. With this in mind, and in view of the size and heterogeneity of the area which enables the reserve to be sub-divided naturally into several distinct zones, a diversified land-use plan has been proposed as follows:

(i) Game-viewing: the major part of the reserve is not suitable for game-viewing because of the dense vegetation and problems of road construction. However, game-viewing tracks are to be constructed radiating out to the main game concentrations in the lowland areas: also game-viewing camping safaris on horseback and on foot are to be organised to the high plateaus and in particular to Chappal Waddi, at 7,980 feet the highest mountain in Nigeria.

(ii) Sport-hunting: part of the reserve should in the future provide excellent hunting in rugged country, buffalo being the main prey species and waterbuck, kob, bushbuck and warthog also being available.

(iii) Selective cropping: owing to heavy hunting pressures in the past, this is unlikely to be viable for at least 10-15 years. As buffalo would almost certainly form the backbone of this scheme, a full study of their population dynamics and ecology needs to be initiated in order to formulate future cropping schemes. With the large and expanding market for bushmeat throughout Nigeria, meat adequately preserved by salting, smoking and drying would be in great demand.

(iv) Sport-fishing: 50 to 100lb. Nile perch are not uncommon in the reserve's main river, and rod and line fishing is to be permitted within fixed bag and weight limits.

(v) Wilderness areas: little or no development is to take place in these areas as they are to be conserved for scientific purposes and for conservation of specific habitat types.

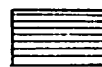
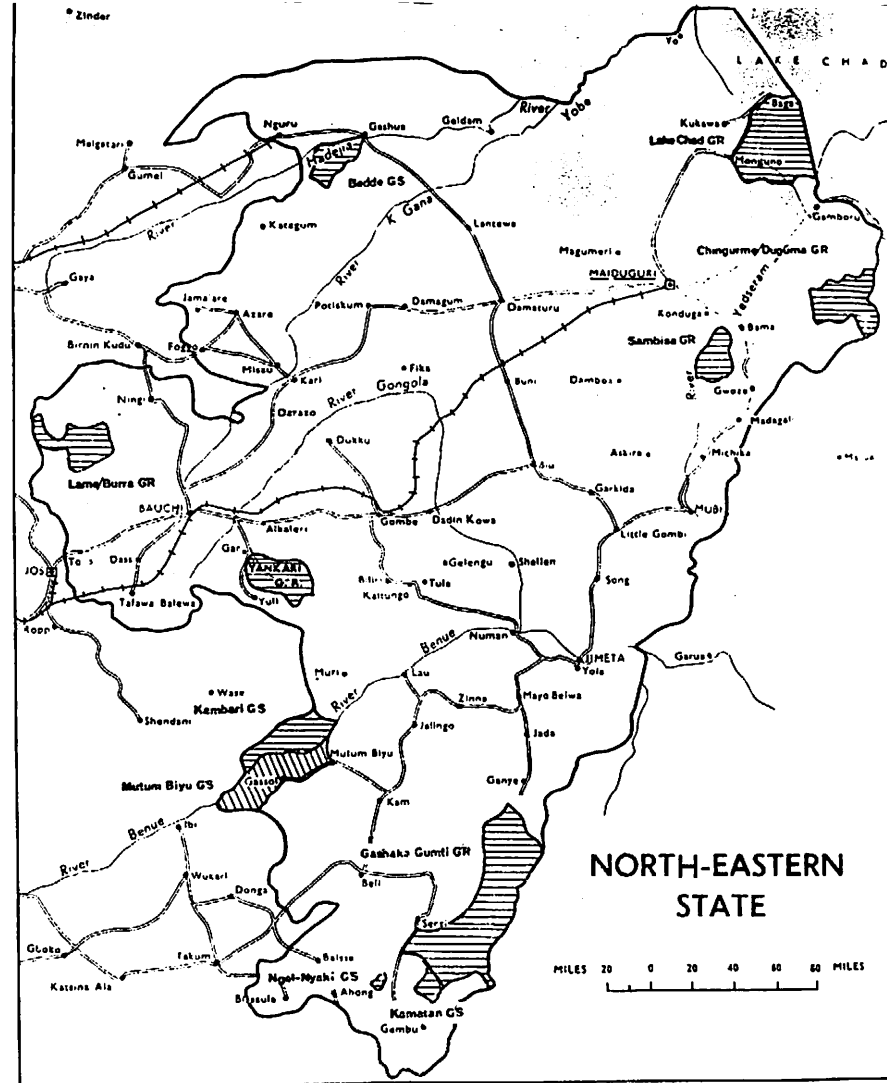


Fig.1

GAME SANCTUARIES AND RESERVES IN N.E. STATE.

(2) Kambari Reserve

Kambari Reserve, in Muri Division of Gongola State, was initially constituted as a forest reserve covering an area of 160 square miles, and has since been gazetted as a game sanctuary to eliminate hunting rights. It lies adjacent to the Pai River Game Reserve in Plateau State and thus in effect creates one large game reserve.

Sufficient evidence has been found to indicate a high intensity of use by game animals. Bushcow, warthog, red-flanked duiker and kob are common throughout the area, whilst bushbuck, reedbuck, waterbuck, oribi, hartbeest, roan and hippo have been recorded. Evidence has also been found of elephant, giraffe, lion and leopard occurring in the area. Because of the difficulties of access, especially from June/July until November/December, tourism on a large scale is not feasible, and once the populations of game have built up, a controlled hunting scheme will be initiated for certain species. There are however possibilities for developing the reserve on a low budget for tourists who wish to walk accompanied by an armed game guard. In this respect, in order to minimise the cost of maintaining roads, huts built at each village along the border of the reserve could be reached by travelling by canoe along the River Benue.

(3) Lame/Burra Reserve

Lame/Burra Reserve in Bauchi State covers an area of approximately 825 square miles, mostly in open savannah woodland, and combines two existing forest reserves, namely Lame and Burra, with a corridor linking them; it also lies adjacent to Kogin Kano Game Reserve in Kano State, thus once again effectively creating one large game reserve.

The reserve has been managed as a warded game reserve since 1972/73 and already it is encouraging to note the increases in the game populations, especially roan and waterbuck. Lions are regularly seen, and klipspringer and giraffe, both relatively scarce species in Nigeria, are found in the reserve. Generally, except for hippo, all the animals seen in Yankari are to be found in Lame/Burra, and it is anticipated that this reserve could easily be developed into a major tourist attraction.

As with all the proposed reserves, the main problems are those of access and the general establishment of basic infrastructures. A basecamp has been set up at Yuga and a total of 400km of jeeptracks have been put in which each dry season need to be cleared to facilitate access throughout the reserve for game patrols. During the rains, however, the many rivers in the reserve restrict access and this hinders protection activities.



Plate 1. In the future, buffalo could form the backbone of a selective cropping scheme and the main prey species for sport-hunting in the Gashaka/Gumfi Game Park.

(4) Sambisa Reserve

Sambisa Reserve, in Dikwa and Gwoza Divisions of Borno State, forms the major part of the dry season range of a herd of elephant numbering between 150 and 200, which habitually in the past caused damage to farm crops, particularly guinea-corn, beans and millet, outside the reserve area. In addition to the herd of elephants, red-fronted gazelle, Grimm's duiker, warthog, roan and Senegal hartebeest are found in the reserve, and giraffe although scarce are recorded. However, it is not envisaged that this reserve will be developed for tourism. It will be managed specifically for the elephant herd which, once it approaches the carrying capacity of the habitat, will be controlled through cropping and sport-hunting on a sustained yield basis, thus becoming a recurrent annual source of protein and revenue.

The elephant herd has been managed for several years now and crop damage has been reduced to an insignificant level. Previously, damage was aggravated by hunters and, during the drought years, by scarcity of water, as the only standing water was often near farmland. Ideally, the elephants and farmers need to be completely separated, as undoubtedly the best form of land use in this area of low agricultural potential would be the controlled management of the elephant herd. However, the acute land shortage, especially in Gwoza Division, negates this. It is therefore necessary to manage the herd in the restricted area of the reserve and provide conditions suitable for them to remain, and, in extreme circumstances, to control marauding elephants outside the reserve area. Tabkis constructed within the reserve have undoubtedly helped to keep the elephants in the reserve where the existing natural vegetation is adequate for their browsing. However, where elephants have strayed out of the reserve, game scouts, employed during the critical period before crops have been harvested, have proved sufficient to drive them away from farms. Tracks constructed all the way round the reserve have also increased the efficiency of control, and these need to be cleared annually both for this purpose and to increase the efficiency of game protection.

(5) Chingurmc-Duguma Reserve

Chingurmc-Duguma Reserve lies in Eastern Dikwa in Borno State, adjacent to Waza National Park in the Cameroun Republic. Animals from Waza, including giraffe, elephant, lion, kob, topi and roan frequently migrate into the area towards the end of the rains but as the area dries up towards the middle of the dry season, most of the animals tend to migrate south back into Cameroun Republic because of the general scarcity of water in the area. Initially, strict protection is being provided and eventually it is intended to provide some source of water to encourage game to remain in the area throughout the dry season and if this is successful it is hoped to develop the area as

a seasonal tourist attraction. However, there are many problems inherent in this proposal as the major part of the reserve lies on 'firki' soils which are totally inundated during the rains and crack up extensively during the dry season making road maintenance a recurrent problem.

(6) Lake Chad Reserve

This lies south of Baga in Borno Division of Borno State and contains a representative sample of the unique fauna and flora of this area. In particular, the shoreline area is of especial interest. Over the past 18 months, as the lake level has progressively risen, there has been extensive regeneration of papyrus and ambach, creating ideal conditions for the populations of situtunga, kob, hippo and elephant, the last-named now numbering nearly 200. Although the dense vegetation and the semi-aquatic habits of many of the animals do not augur well for good game-viewing, the whole of the shoreline and its fauna is to be strictly protected with a buffer zone surround where no hunting will be allowed. It is however intended to encourage visitors to the lake also to visit the reserve, as the array of birdlife provides a spectacle rarely found elsewhere in Nigeria. Tracks are at present being put in throughout the reserve both to aid access and for protection activities, and game staff are posted at strategic points around the reserve.

(b) Wildlife Management and Control Project

The Wildlife Management and Control project encompasses Borno, Bauchi and Gongola States and will throughout the Plan period continue to:

(1) Protect wildlife through the enforcement of wildlife laws by staff while on tour and on patrol; this includes patrolling of existing game sanctuaries namely Kamatan, Ngel Nyaki and Mutum Biyu in Gongola State and Bedde in Borno State. The first two areas are also fully protected as forest reserves and are especially important in conserving areas of remnant high forest on Mambilla Plateau and harbouring, among other species, populations of chimpanzee and yellow-backed duiker.

New wildlife legislation was approved by the North-Eastern State Government in May 1975, which affords far greater protection to and far better utilisation of the wildlife resource. The new legislation gives much more control over the number and species of animals which can be hunted, methods of hunting, numbers of licences to be issued, the keeping of captive animals, and the buying and selling of trophies. In particular, attention should be brought to the following points:

(i) Many animals which previously could be hunted without a licence or on a Local Authority licence have now been put on the prohibited and specially protected lists (Appendix A). Prohibited animals may only be hunted in

exceptional circumstances, and specially protected animals may only be hunted after a licence has been obtained from Maiduguri, Bauchi or Yola. Restrictions have also been imposed on the type of weapons and ammunition that may be used to hunt any of these animals;

(ii) Other animals on the protected list come under the control of Local Authorities from whom a licence needs to be obtained. Animals affected thus are all duikers except yellow-backed duiker, red-fronted gazelle, oribi, warthog, red river hog and all waterfowl;

(iii) The very nature of the new laws gives control over the number of animals hunted and the method in which they are hunted. Most important, revenue is obtained before a licence is issued, as hunters have to pay in advance for any animal they wish to hunt. The cost of a licence depends on the number and type of animals to be hunted (Appendix B);

(iv) The transfer or sale of any part of an animal on the specially protected list requires a permit obtainable only from Maiduguri, Bauchi or Yola, and from the respective Local Authority for any animal on the protected list. These permits will only be issued where a trophy has been obtained legally. Traders dealing in trophies from any protected animal also require a licence from Maiduguri, Bauchi or Yola.

(v) Possession of a captive specially protected or protected animal requires a special licence obtainable from Maiduguri, Bauchi or Yola, the cost of which depends on the animals involved.

(2) Assist farmers to protect crops where these are at risk from marauding animals and control marauding animals, particularly elephant in Bama and Gwoza Divisions of Borno State and hippo along stretches of the River Gongola in Bauchi State, where there is no alternative. Measures have been adopted to reserve an area specifically for the controlled management of the elephant herd in Borno State (Sambisa), and in Bauchi State, farmers affected by hippo damage have been shown how to erect a simple fence which has proved particularly effective in eliminating crop damage.

(3) Carry out ecological surveys of wildlife and conduct research on the biology of Nigerian species where this is practicable and desirable. Areas still to be fully surveyed include the Gotel Mountains, Vogel Peak, Tiba Plateau, Kiri Plateau, Alantika Mountains, the Sumtai Highlands and Bissaula in Gongola State; in Bauchi State, stretches of the River Gongola and its tributaries merit further investigation. Borno State has been extensively covered and consideration is to be given to establishing a controlled wildfowling zone between Nguru and Geidam, an area in which extensive fadamas provide important feeding grounds both for endemic and Palaearctic wildfowl; in the Malamfatori area, plans are in hand to reserve an area for protection of the habitat, particularly the belt of *Salvadora persica* which is especially



Plate 2. Once the elephant herd approaches the carrying capacity of the habitat at Sambisa, a controlled cropping scheme will be initiated.

important for Palaearctic migrant birds which fatten up in the area before departing on the non-stop flight over the Sahara; in the area north of Yusufari around Dalatura, there is a series of oases rich in flora and fauna in an otherwise extremely arid environment, and it is intended to put forward proposals for reserving these.

(4) Establish cropping schemes on a sustained yield basis whenever the status of the species concerned warrants it. The viability of establishing a cropping scheme for the elephant herd in Bama and Gwoza Divisions of Borno State is to be fully investigated although it is more likely that this will be embodied in a controlled hunting scheme. In Gongola State, plans have been put forward for setting aside an area in the Gashaka Gumti reserve for a controlled cropping scheme particularly of buffalo. At Yankari Game Reserve in Bauchi State, buffalo, waterbuck and hartebeest populations may be in imminent need of control on a selective cropping basis if ecological investigations show that there are signs of overgrazing along the River Gaji at the height of the dry season.

(5) Establish an animal immobilisation, capture and translocation unit to catch animals in the wild in order to re-stock other reserves and provide a source of animals for the Kyarimi Park in Maiduguri and, if finally approved, the proposed Lake Alo safari park in Borno State.

Proposals have been submitted for the establishment of a safari park at Lake Alo in a memorandum submitted to the Commissioner for Animal and Forest Resources of the former North-Eastern State. If finally approved, the main purposes of this Park would be:

- (i) To set up breeding herds of species that are now rare, on the verge of extinction, or already have been exterminated in Nigeria;
- (ii) To hold and breed species suitable for translocation from reserves where they are plentiful to those where they are scarce. This would depend largely on the successful operation of a competent capture team;
- (iii) To provide a selection of indigenous wildlife of interest to residents and tourists alike in a pleasant countryside environment only a few miles from Maiduguri.

SUMMARY

New game reserves to be developed in North-Eastern Nigeria are Gashaka/Gumti and Kambari in Gongola State, Lame/Burra in Bauchi State and Sambisa, Chingurme-Duguma and Lake Chad in Borno State.

A Wildlife Management and Control project will be responsible in each of the three States for ensuring the conservation, wise use and development of wildlife and its environment.

A proposal has been submitted for the establishment of a safari park at Lake Alo in Borno State.



Plate 3. Both lion and giraffe frequently migrate into the Chingurme-Duguma Reserve during the rains from the adjacent Waza Game Reserve in Cameroun.

APPENDIX A

FIRST SCHEDULE

PROHIBITED ANIMALS

PRIMATES	
All Colobus monkeys	<i>Colobus spp., Procolobus spp.</i>
Chimpanzee	<i>Pan troglodytes</i>
Gorilla	<i>Gorilla gorilla</i>
CARNIVORA	
Lion	<i>Panthera leo</i>
Leopard	<i>Panthera pardus</i>
Cheetah	<i>Acinonyx jubatus</i>
Serval	<i>Felis serval</i>
Caracal	<i>Felis caracal</i>
Golden cat	<i>Felis aurata</i>
Wild cat	<i>Felis libyca</i>
Wild dog	<i>Lycaon pictus</i>
Cape Clawless Otter	<i>Aonyx capensis</i>
Speckle-throated Otter	<i>Lutra maculicollis</i>
Cameroon Otter	<i>Paraonyx microdon</i>
Ratel or Honey Badger	<i>Mellivora capensis</i>
TUBULIDENTATA	
Aardvark	<i>Orycteropus afer</i>
PROBOSCIDEA	
Immature Elephant	<i>Loxodonta africana</i>
SIRENIA	
Manatee	<i>Trichechus senegalensis</i>
PERISSODACTYLA	
Black Rhinoceros	<i>Decceros bicornis</i>
ARTIODACTYLA	
Mountain Reedbuck	<i>Redunca fulverifula</i>
Giant Eland	<i>Taurotragus derbianus</i>
Dorcas Gazelle	<i>Gazella dorcas</i>
Dama Gazelle	<i>Gazella dama</i>
Scimitar Oryx	<i>Oryx algezel</i>
Water Chevrotain	<i>Hyemoschus aquaticus</i>
Giraffe	<i>Giraffa camelopardalis</i>
Giant Forest Hog	<i>Hylochoerus meinertzhageni</i>
Yellow-backed Duiker	<i>Cephalophus sylvicultor</i>
Sitatunga	<i>Tragelaphus spekei</i>
Klipspringer	<i>Oreotragus oreotragus</i>

REPTILES

Nile crocodile	<i>Crocodylus niloticus</i>
Short-nosed crocodile	<i>Osteolaemus tetraspis</i>

AVES

Ostrich	<i>Struthio camelus</i>
Secretary Bird	<i>Sagittarius serpentarius</i>
Hammerkop	<i>Scopus umbretta</i>
African Spoonbill	<i>Platalea alba</i>
Abyssinian Ground Hornbill	<i>Bucorvus abyssinicus</i>
Herons and Egrets (including Bitterns)	Family <i>Ardeidae</i>
Pelicans	Family <i>Pelecanidae</i>
Storks	Family <i>Ciconiidae</i>
Vultures, Kites, Eagles, Buzzards, Sparrow-Hawks and Harriers	Family <i>Accipitridae</i>
Falcons	Family <i>Falconidae</i>
Cranes	Family <i>Gruidae</i>
Bustards	Family <i>Otididae</i>

EXOTIC ANIMALS

All feral exotic animals.

SECOND SCHEDULE

SPECIALLY PROTECTED ANIMALS

PRIMATES

All monkeys (except those specified in the First Schedule, patas monkeys and common baboons).

PROBOSCIDEAE

Mature Elephant	<i>Loxodonta africana</i>
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ARTIODACTYLA

Hippopotamus	<i>Hippopotamus amphibius</i>
Buffalo (Bush-cow)	<i>Syncerus nanus</i>
Western Hartebeest	<i>Alcelaphus buselaphus</i>
Topi	<i>Damaliscus korrigum</i>
Kob	<i>Adenota kob</i>
Reedbuck	<i>Redunca redunca</i>
Roan	<i>Hippotragus equinus</i>
Waterbuck	<i>Kobus defassa</i>
Bushbuck	<i>Tragelaphus scriptus</i>

REPTILES

All Monitor Lizards	<i>Vuranus spp.</i>
All Pythons	<i>Python spp.</i>

AVES

All Parrots	Family <i>Psittacidae</i>
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THIRD SCHEDULE
PROTECTED ANIMALS

All Duikers (except yellow-backed Duiker)	<i>Cephalopus spp.</i> <i>Philatomba spp.</i> <i>Sylvicapra spp.</i>
Red-fronted Gazelle	<i>Gazella rufifrons</i>
Oribi	<i>Ourebia ourebia</i>
Warthog	<i>Phacochoerus aethiopicus</i>
Red River Hog	<i>Potamochoerus porcus</i>
All Waterfowl	Family Anatidae

APPENDIX B

	Maximum number authorised to be killed on any one licence.	Per capita fee to be charged for each animal authorised.
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SPECIALLY PROTECTED ANIMALS

PRIMATES

All monkeys except those specified in the First Schedule, patas monkey and common baboon	4	N6.00
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PROBOSCIDAEA

Mature Elephant	2	N150.00
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ARTIODACTYLA

Hippopotamus	3	N60.00
Buffalo (Bush-cow)	1	N20.00
Western Hartebeest	1	N15.00
Topi (Senegal Hartebeest)	1	N15.00
Kob	2	N8.00
Reedbuck	2	N6.00
Roan Antelope	1	N15.00
Waterbuck	1	N15.00
Bushbuck	2	N8.00

REPTILES

All monitor lizards	2	N6.00
All pythons	2	N10.00

AVES

All parrots	2	N20.00
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ARTIODACTYLA

All duikers (except yellow-backed duiker)	3	N1.00
Red-fronted Gazelle	2	N3.00
Oribi	2	N2.00
Warthog	2	N5.00
Red River Hog	2	N8.00
All Waterfowl	unlimited	N10.00

A Checklist of The Mammals of National Park W. Niger, West Africa

By Richard M. Poché

(School of Forestry and Conservation, University of California, Berkeley, California 94702, U.S.A.)

UNTIL recently very little information was available on wildlife from south-west Niger, and in particular from National Park W. Over a three-year period (1969-1972) an inventory of the Park W mammalian fauna was conducted by the author, who is believed to be the first and so far the only person to have collected and recorded mammals in the region. Records and specimens were obtained by the following methods:

- 1) Direct field observations to determine larger species;
- 2) Snap trapping to sample rodent populations;
- 3) Night excursions using headlamps to identify secretive species such as the Viverrets and smaller cats;
- 4) Large live traps for carnivores, i.e. foxes, badgers, genets;
- 5) Mist nets placed over ponds, streams and amongst riparian vegetation to sample Chiropteran fauna, i.e. bats;
- 6) Road kills were identified and when possible the skull retained;
- 7) Occasionally specimens were collected with a .410 shotgun.

Study skins, for the more common species, were prepared for most families represented. Many species identifications were verified by personnel in the Division of Mammals, United States National Museum of Natural History, Washington, D.C.

The Principal study guides or keys used to aid with mammal identifications included:

- 1) Rosevear, D. R. 1965. *The bats of West Africa*. British Museum (Natural History), London. 418 pp.
- 2) Rosevear, D. R. 1965. *The rodents of West Africa*. British Museum (Natural History), London. 604 pp.
- 3) *Preliminary Identification Manuals for African Mammals* (Assorted Volumes). J. Meester ed. Smithsonian Institution, Washington, D.C.
- 4) Dorst, J. 1970. *A field guide to the large mammals of Africa*. Houghton Mifflin Company, Boston. 287 pp.

Specimens obtained were deposited in the U.S. National Museum of Natural History; the Museum of Vertebrate Zoology (Berkeley, California); and museums at Texas A&M University (College Station, Texas) and the University of Colorado (Boulder, Colorado). The U.S. Peace Corps maintains a small collection at Tapoa, Park W headquarters.