

The quartzite of Nos. 13 and 15 doubtless comes from the quartzite of the Kisii Highlands, probably from pebbles brought down by the Kuja river. In No. 15 this is certainly the case, for the reverse side shows the natural rounded surface of the pebble with only secondary chipping round the edge.

No. 14 is a quartz-porphry, rather similar to the quartz-porphry of Najanja at the south-east angle of Homa Bay.

Nos. 11 and 12 were found at Nira; all the remainder come from Kachuku.

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THE GAME OF THE NORTH KAVIRONDO DISTRICT, NYANZA PROVINCE

BY C. W. WOODHOUSE

The North Kavirondo district is not noted for the abundance of game it contains, but many interesting mammals inhabit it.

The boundaries of the district are, roughly, the Yala River to the Lake; the Lake shore to the mouth of the Sio River; thence for about twenty miles up the Sio River, and from there to the Malaba River which it follows to Elgon; about half of Elgon; and the Nandi Escarpment down to the Yala River.

This large area differs considerably in the character of the country, and from a zoological point of view may be conveniently divided into three divisions.

Division 1.—The greater portion of the district consists of rolling grass-clad downs, with scattered bushes and small trees. Here and there are outcrops of rock and occasional copses, or woods of thorn bush and timber trees.

Nearly every valley is swampy during the rains. The grass, which mainly consists of spear-grass and red top, grows to a length of about five feet. This land is fairly thickly populated and does not hold much game, an occasional duiker or reedbuck (Ward's *Bohor*) being seen. Game birds are

fairly plentiful, such as snipe, quail, guinea-fowl, pigeon and an occasional francolin.

Division 2.—The swamps surrounding the Lake and the mouths of the various rivers such as the Yala and Nzoia, including the larger rivers themselves—these hold a variety of animals, such as hippopotami, *situtunga*, otter, crocodile, and such birds as egret, duck and geese.

Division 3.—The hills along the Nandi Escarpment, the valley of the Lusumu between these hills, the Nandi Escarpment, and the country from the Nandi Plateau to Elgon, all along the eastern boundary of the North Kavirondo district. Included in this division is Mount Elgon and its slopes. There are two large forests partly in this division, the fauna of which is fairly distinctive, viz. Kakamega and Elgon. The hills are all covered with small trees, and the grass is three to four feet long. The greater majority of the game inhabit this third division of the district towards Mount Elgon and north of the Nzoia; on the eastern side it becomes plentiful. The head of game is doubtless maintained by migration and stragglers from the uninhabited country to the north-east of the Nyanza Province and north of the Uasin Gishu.

The natives inhabiting the northern and eastern portion of the North Kavirondo district consist of the Nyarusi and cave-dwellers—Kitosh people (Bantu who circumcise), Tatzoni, and Uasin Gishu, Masai, who appear to have a good many Nandi living with them.

All these tribes possess and use bows and arrows and spears for hunting game, and are often assisted by their pariah dogs. They dig an extensive and elaborate system of pit-falls, often extending for over a mile in a curve, with a pit every few feet. For some reason these pits are now falling into disuse, but formerly they must have accounted for many beasts. They are very cunningly situated in the exact place where an animal would turn aside to avoid a bush—in fact so well situated are they even now, when the covering has disappeared, that on riding across country without following a native path the traveller's mule or one of his boys will suddenly vanish, and, in the case of an animal, be extricated only with difficulty.

The Bantu natives, inhabiting the first division of these

English Name	Bantu Kavirondo Name	Tatsoni Name
Colobus monkey	Ndivisi	Ndivisi
Blue monkey	Eshima (monkey (?))	Esobolé
Hyrax	—	Kenewa kel goynyi. Translation (?): The runner into rocks on Elgon
Rhino	Kiveo	Kiveo
Hippo	Iffufu (monkey (?))	Iffufu (said explosively)
Elephant	Nsofu	Nsofu
„ tusks	Luika	Msanga
Buffalo	Mbogo	Mbogo
Hartebeest	Esuma	Konguna
Kobus Thomasi	Esululumé	Esunu
Waterbuck	Eholu	Eholu
Oribi	Hatsusu	Ehissi
Duiker	Eweh	Eweh
Reedbuck	Eporé	Injia
Situtunga	Mbongo	Mbongo
Bushbuck	Sembereri	Sembereri
Pig (wart-hog)	Mbitzi	Mbitz
Giant Pig	Injiri	—
Bush Pig	Mbiri	—
Otter	Endoholu	—
Marabout Stork	Ololoi	Chemonoi
Lion	Talaing	Talaing
Leopard	Ingwe	Ingwe
Serval Cat	Imbwe	Imbwe
Ferret	Disimba	Disimba
(Mongoose (?))		
Hyæna, spotted	Iffisi	Iffisi
„ striped	—	Sirgoin
Crocodile	Ekwena	Ekwena

THE APPLICATION OF JORES' METHOD OF PRESERVING TISSUES IN THEIR NATURAL COLOURS TO NATURAL HISTORY SPECIMENS

By Dr. P. H. ROSS AND MR. A. BLANEY PERCIVAL

Jores' method of preserving tissues in their natural colours consists in placing the specimen in the following fixing solution:

Sodium chloride	1.0
Magnesium sulphate	2.0
Sodium sulphate	3.0
Distilled water	100.0
Formalin	.5 to 10 parts

In this solution the specimens are left for a time, depending on their size, the larger the specimen the longer being the time. In this solution the colour gradually becomes grayish, but on transferring the specimen to methylated spirit for from one to six hours the original colour returns, and the specimens are then put into a mixture of equal parts of glycerin and water, in which they are preserved. At no time during the course of the preparation are the specimens washed in water. Plenty of the fixing solution should be used.

Some seven or eight years ago it occurred to one of us (P. H. R.) to try whether the ordinary methods of preserving pathological specimens in their natural colours could not be applied to natural history specimens. A large brilliantly coloured praying mantis was prepared according to the method of Jores ('Centralblatt f. path. Anat.' Bd. VII. 1896, S. 134), and sent to the British Museum. Judging by the description of the colours on arrival at the British Museum, the method was entirely successful, so far as concerned the preservation of the colour.

Objections are raised against the use of formalin for natural history specimens, on the grounds (1) that the specimens become too stiff for examination; (2) that though the colour may be retained, the markings are lost; (3) that the specimens finally perish in formalin.

notes, are very skilful in trapping birds such as quail, snipe, and even guinea-fowl. In the case of quail, a most familiar sight on the country side are the poles on which are hung the decoy quails (in baskets) to attract their kindred to the snares. The quail and snipe are migratory. They are said to arrive when the *wimbi* is harvested. A few residents stay throughout the year. The flocks of guinea-fowl break up and pair about the beginning of April, and nest during that and the following months. Poults have been observed at the beginning of June and end of May. They are trapped by the natives with running nooses of string (sinew) set above or among grain placed to attract the birds. The noose is supported on a grass blade some inches from the ground, and attached to a piece of a small branch or pegged into the ground.

The game animals observed in this district are as follows :

MONKEYS

Colobus.—The ordinary Colobus monkey of East Africa is common in the Kakamega and Elgon forests. In the latter, the Dorobo and forest-dwelling Nyarusi state that it is migratory. It is said to come in large numbers, when the bamboo shoots are growing, to feed on them.

The Grey Monkey (Cercopithecus griseoviridis?) occurs in the forests and along the rivers, and is also found in the small copses.

Blue Monkey (Cercopithecus sykesi var.?)—There are two or three varieties of the blue monkey in the district. They are all confined to the Kakamega and Elgon forests. The three varieties are :—

1. The *blue monkey*, showing a dirty white patch on the side of the face and on the side of the buttocks. A more or less reddish triangular patch, apex upwards, on the loins. The fur of this variety is rather short. Habitat, Kakamega forest.

2. The *blue monkey* from the lower slopes of Elgon. Both sexes have dark blue fur. No reddish patch. The face and 'whiskers' black.

3. The *blue monkey* from the higher slopes of Elgon, with long

blue fur, slightly yellowish in the male, face black, whiskers dark blue; found up to about 11,000 feet. This animal grows to a considerable size. Kaross, sewn of the skins of this animal, appear to form part of the insignia of a headman. Many sub-chiefs and headmen may be seen wearing these robes, both Masai and Kavirondo. They do not appear to be worn by inferiors, but this may be due to the price requested by the seller, viz. an ox is given by the purchaser to the Nyarusi or Dorobo who sell the skin. A goat is stated to be returned by the vendor by way of change. At least two species of *Hyras* are found on Elgon: the ordinary 'Rock Rabbit' and a tree *Hyras* farther up the mountain. The fur of this *Hyras* is not so full or thick as the specimens found on the Mau. It is not very common.

UNGULATES

Rhinoceros.—A single rhinoceros is stated to be living in Ngonga's country (Yala River). Originally there were two, but one was destroyed. They are stated to have strayed there. The natives state that a very occasional rhinoceros is seen in Division 8, obviously stragglers who have lost their way or are following some forgotten migratory route. Rhinoceros horn *rungus* are not uncommon among the Masai and Nyarusi, but are stated to have been brought from a distance.

Hippopotamus is common in the larger rivers and ascends up them to near the Nandi Escarpment. They ascend the rivers during the rains, in flood water. Many stay during the dry season in the pools—in fact, nearly every large reach contains one or two hippo. They do an enormous amount of damage to the crops of the natives, who constantly cultivate a strip along the rivers. Except where they have been molested, they show little fear of man and may occasionally be seen feeding as late as 10 A.M. This may be due to the fact that many of them appear to be blind either in one or both eyes. In undisturbed pools (except for the odd poisoned arrow of the hunter), they will rise and sink in the water all day or lie up in the reedbeds. If, however, they are driven out of these they usually show great curiosity as to what has disturbed them.