

THE MAMMALS OF EASTERN ETHIOPIA

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This paper, in spite of its title, is by no means a full report on the mammals of even a small part of the political entity referred to. It is a progress report on a survey of the mammal fauna of a relatively small part of eastern Ethiopia being conducted by my colleague, Mr. Robert Ingersol, zoologist at the Imperial College of Agriculture, and myself. The study is supported by grant G-20863 of the National Science Foundation of the United States. Along with the report of our activities I shall make some general remarks about the major constituents of the fauna of this country, to which, for the sake of avoiding confusion, I apply the term "Abyssinian fauna".

The Imperial College, a convenient headquarters from which to make trips into near-by areas, is located on the east shore of Lake Haramaya, on the crest of the divide separating the Rift Valley and Indian Ocean drainages. The town of Dire Dawa, 25 miles to the north of the college, is at the foot of the escarpment in the Rift Valley, and Harar, 15 miles east, is in the highlands at the top of the long deeply dissected slope leading to the deserts of Somaliland.

The area lying immediately west of the college is called the Chercher Highlands, and is an intensively farmed hilly plateau with high forested peaks scattered along its length. Eastward the highlands descend gradually, becoming progressively more arid and less heavily vegetated toward the Somalia border. Originally the entire Chercher Highlands area must have been completely clothed with tropical montane forest, consisting principally of *Podocarpus*, *Juniperus*, and various broadleaved trees. However, only remnants now persist in places where the slopes are too steep for farming, and this condition has probably been in existence for many hundreds if not thousands of years. Except for the steepest slopes the forest has been cleared away to make room for crops of barley, wheat, maize, sorghum, coffee, etc. Cattle and sheep are grazed wherever there are patches of uncultivated land. Except for the forest areas the Highlands are generally not very good places for mammal-collecting.

Agriculture ends rather abruptly at the foot of the Rift escarpment north of the Highlands, except in places where there are small irrigation developments near the few rivers with permanent flow. On the opposite side the plateau descends much more gradually, and the streams have carved deep canyons extending to the south. There is some farming in these valleys, but large areas are uncultivated, and are covered with sparse or dense acacia scrub, interspersed with large expanses of grass. Most of the rivers on both sides of the Highlands are bordered by a gallery forest of large acacias.

This kind of topography is surely not unusual in East and South Africa. However, the restriction of agriculture, even that of an indigenous subsistence type, to the highlands, and the restriction of pastoralism to low hot regions, may be somewhat different from the cultural pattern in other parts.

The whole Abyssinian plateau is a mountain island that is itself cut into eastern and western parts, with a corridor, the Rift, separating them. The Chercher Highlands represent the easternmost extension of the high country east of the Rift Valley, which also includes the Arussi Highlands further west and the region sometimes referred to as "Gallaland" further south. This entire massif is separated both from the rest of the Abyssinian Plateau and from the other parts of the East African highlands. The Rift widens in north-eastern Ethiopia to form the Danakil Depression. Here low elevation and scanty rainfall create a semidesert that is matched only by the Kenya and Somalia border country far to the south.

Three facts have a considerable bearing on the composition of the regional mammalian fauna: 1. That the Abyssinian Plateau constitutes the northern end of the highlands of East Africa; 2. that the Plateau is largely cut off from the highlands of Kenya by semidesert; and 3. that desert or semidesert also encircles the Plateau to the west, north, and east. These factors have acted to produce a remarkable number of endemic forms on the one hand, and on the other hand to restrict the remainder to forms whose range takes in the greater part of the continent. Also, many species that inhabit the equatorial plains of East Africa find their northern limit of distribution in Ethiopia, often near the southern border. The ecological isolation of the region is therefore reflected in a fauna that is both peculiar and, by African standards at least, somewhat depauperate. I shall illustrate these three groups with examples from my own experience in a limited area, supplemented generously by examples from the literature covering Abyssinia as a whole.

There are many examples of species endemic to the Abyssinian region, although many that I shall mention do extend beyond the political boundary. For the purpose of this discussion I shall not differentiate between species native to the highlands, and those from the surrounding deserts. Naturally there is much more information on the larger species, and the data on the insectivores, bats and rodents are admittedly incomplete.

Among the forms ranging widely in Abyssinia, whose total range extends far beyond the area under discussion, some examples are the beisa oryx, bushbuck, defassa waterbuck, greater and lesser kudu, reedbuck, oribi, klipspringer, hippopotamus, warhog and bushpig. Of the carnivora might be mentioned: all of the cats except *Microfelis* and *Profelis*, spotted and striped hyaenas, aardwolf, golden, grey and black-backed jackals, *Otocyon* and *Lycaon*, and of the small species members of the genera *Genetta*, *Viverra*, *Atilax*, *Herpestes*, *Ichneumia*, *Lutra* and *Mellivora*. Widespread species of primates found in Abyssinia include *Galago senegalensis*, *Cercopithecus aethiops* and *mitis*, *Papio doguera* and *Colobus polykomos*. Species of both *Procavia* and *Dendrohyrax* are also widespread, as are the following genera of small mammals: Chiroptera, *Epomophorus*, *Rousettus*, *Scotophilus*, *Miniopterus*, *Nycteris* and *Tadarida*; Insectivora, *Macroscelides* and *Crocidura*; Rodentia, *Hystrix*, *Arvicanthis*, *Dasymys*, *Lophuromys*, *Rattus*, *Leggata*, *Acomys*, *Praomys* (*Mastomys*), *Otomys*, *Tatera* and *Tachyoryctes*; Lagomorpha, *Lepus*.

Among the mammals that reach their limit of range near the Abyssinian border are the lelwel and Swayne's hartebeest, and probably the topi and tiang; white-eared kob, roan antelope, Cape buffalo, forest hog, black rhinoceros, Burchell's zebra and possibly *Papio cynocephalus*, *Erythrocebus patas*, and species of the genera *Galerella*, *Helogale*, *Mungos*, and

Steatomys. Doubtless the list will be greatly enlarged when the fauna of southern and western Abyssinia has been more adequately studied.

Certainly the most interesting component of any local fauna consists of the endemic forms. North-east Africa is exceptionally rich in these. Of those listed below, some encroach upon the East African plains or lowland bush, but there can be little question that they originated in the area under discussion. The list includes the mountain nyala, dibatag, Pelzeln's, Speke's, and Soemmerring's gazelles, beira, and various species of the genus *Madoqua*, the walia ibex, the wild ass, and the Grevy zebra. Endemic primates include the hamadryas and gelada baboons. Carnivora are the Abyssinian fox, *Simenia*, *Genetta abyssinica* (if it is not merely an aberrant form of one of the common genets). To this group of species must certainly be added the bats *Platymops* and possibly *Cardioderma*, and the rodent genera *Pectinator*, *Stenocephalemys*, *Nilopegamys*, *Heterocephalus*, and *Lophiomys* and *Pelomys* (*Desmomys*).

Some preliminary observations concerning the mammals of the region where my own study was made are summarised below.

The East African wild ass has been seen in the Danakil Depression several times during recent years, in localities as much as 250 miles apart. The indications are that a substantial remnant of this species still exists. There is a small herd of elephant still ranging in the Fafan and Dacata valleys south-east of Harar. The principal game species in the Danakil Depression are beisa oryx and Soemmerring's gazelle. Both are still abundant, and herds of up to 50-60 head are frequently seen. The Grevy zebra is also widespread in the Depression, but usually forms into smaller groups than the oryx. Gerenuk and both species of kudu are also present in considerable numbers.

Lion and cheetah occur both in the Danakil Depression and on the south-eastern slope. The former especially is common in the area studied, but neither species ranges into the highlands. This distribution is shared by the caracal and the African wild cat. Leopard and serval occur at all elevations, the latter being very common in the cultivated areas of the highlands.

Of the dikdiks, *Rhynchotragus guentheri* occurs only on the southern side of the highlands. *Madoqua* is represented on the southern side by the species *M. phillipsi*, and by another form, probably *M. cordeauxi*, in the Danakil Depression.

The baboon *Papio hamadryas* ranges over all elevations in the area studied, and is the only baboon known to occur east of the Rift Valley and north of the Webi Shebeli River. The bush baby *Galago senegalensis* is found in the Danakil Depression, at least along its southern border near the escarpment. Hyraxes are common in all rocky areas, both *Procavia* and *Dendrohyrax* often living together in the same rockpile. A multimammate rat, genus *Praomys* (*Mastomys*), was found to be common in the bush on the southern slope, but none were taken in the Depression.

These and many other observations pose tantalising questions which I hope will be at least partly answered when detailed studies are completed.

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