

GEOGRAPHICAL DISTRIBUTION OF AFRICAN MAMMALS

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(Section Leader's Introductory Address)

In introducing this section, which covers topics dealing with the geographical distribution of mammals in Africa, and with the origin of the various elements of its mammalian fauna in relation to ecology and the geological history of this continent, I should like to point out several facts. Among the authors who have worked on the biogeography of African mammals, several have stressed the remarkable unity of the continent as regards its faunistic components. Many of them are spread from the Cape to Senegal in all areas where their ecological requirements are fulfilled. On the other hand, several other authors have made clear distinctions between various elements constituting the African mammalian fauna, which seems to be divided into a series of faunistic units separated by distinct distributional gaps. It is true that such boundaries do exist. One of them runs through Rhodesia and sets apart the South African fauna from its East African counterpart. Another of even greater importance runs somewhere in Central Africa, from Chad to Ubangui, and at these latitudes divides the West from the East African fauna. Several other similar lines may be drawn through Africa, showing a close relationship with both past and present distribution patterns and ecological characteristics of the mammals.

The importance of these views has been greatly exaggerated by most mammalogists and we are now convinced that our ideas must be completely revised in the near future. In this connection we must not forget some very important points. The first is closely related to the impact of man on the distribution of mammals in Africa. In fact the present pattern is partly the result of modification by human action over thousands of years. Primitive man already had one of the most powerful tools for changing the habitat, fire. Of course natural fires may be started by lightning. Dense rain forest is remarkably resistant to the effects of burning and fire and the degree of its impact on nature is a very tricky problem to solve throughout the world.

Nevertheless the periodic burning of large areas in Africa, once or twice a year, has had a marked effect on the balance of nature, on the vegetation cover and consequently on the distribution of the various types of mammals and other animals according to their ecological requirements. Many of the African savannas and grasslands are man-made, through burning by pastoralists, as careful examinations by pedologists and botanists have clearly demonstrated.

Thus what we study now when we consider the present status and distribution of mammals in Africa is a completely modified pattern. We must bear this basic fact in mind when trying to interpret biogeographical information and must try to extend our conclusions to the recent past or to a time when there was a natural balance with no human interference. This is particularly true if we consider that what is now left is a mere skeleton of the populations of mammals and other animals that existed before the advent of man. Most species now show a patchy distribution, with isolated populations scattered about the original range. We must

therefore be very careful in arriving at any interpretations and conclusions, tempting as they may be.

Finally I would also point out how limited our knowledge is, not only of distribution but also of the systematics of the African mammals. With the exception of some well-known species, we are still unable to make accurate determinations of many of them. There are terrible gaps in our knowledge and we must be much concerned about the scarcity of information, especially when we realise that mammals have been studied not only for many decades, but in some cases for hundreds of years.

The urgent need for research must be emphasised. We need more data on systematics, distribution and ecology in order to undertake any kind of serious scientific research, even in the field of applied biology. Many wild mammals are important pests to agriculturalists or transmit diseases and we can only guess at what they are and how they live.

We also need this knowledge at the present moment when all of us, and not only the conservationists, are much concerned about the fate of the mammalian fauna in modern Africa. Its conservation must be our main task and cannot be undertaken without a sound knowledge of the characters of the animals.

A great effort of international co-operation is needed to bring our knowledge to a more satisfactory level. We would therefore appeal here to all mammalogists interested in these studies to collaborate, in order to come to a better understanding of what must be done.

And we would also insist on the necessity for meetings like this one. They can increase our knowledge substantially and arouse a common interest in problems which can only be solved by a team of scientists working in close co-operation with one another.