

A Dry Crossing of the Nile and its Possible Influence on the Distribution of Mammalian Species.

(To the Editor, "The Uganda Journal.")

SIR,

In the "Correspondence" at the end of No. 2 (Vol. 1) of the "Uganda Journal" in connection with "A Dry Crossing of the Nile" an extremely interesting point is raised concerning the possibility of the white rhinoceros in West Madi and the black rhinoceros on the right (east) bank availing themselves of this dry crossing.

Elephant have apparently taken advantage of the temporary bridge—and it is asked, "If elephant, why not rhino?"

It has also been suggested that the existence of this highway across the Nile offers a unique opportunity for endeavouring to persuade representatives of the rare 'white' species to cross to the right bank where it is at present unknown, and where the conditions seem equally suitable.

The suggestion of induced, as opposed to natural, movement need not be considered seriously for if one reflects a moment it will be realised that the crossing is in the nature of a defile, which most of the larger species of animals however carefully driven or persuaded would probably regard with suspicion and avoid. In consequence these notes concern only possible crossings undertaken naturally.

Local evidence indicates that the blockages occur periodically and last for several years at a stretch, and therefore it at first appears remarkable that the Nile continues to play the rôle of boundary between the two species of rhinoceros.

That this river remains a very definite barrier to the two varieties, in spite of the periodic occurrence of blocks which act as serviceable highways, is not so remarkable in view of a certain characteristic peculiar to both, and this is a pronounced aversion to crossing running water. It is a trait which has never been satisfactorily elucidated.

Neither species has an aversion to water and both are partial to swamps and wallows, but those who are intimately acquainted with either will find it difficult to recollect any occasion on which a specimen or spoor crossed a river.

I can quote no instance from personal experience of a river being crossed, though hundreds to the contrary.

On one occasion after two and a half years of drought I found dozens of the black type concentrated in a relatively small area either side of the river Kerio, south of Lake Rudolf in Kenya, and although nightly many were accustomed to drink at this river, all invariably returned whence they came and not a single one attempted to cross however shallow and narrow the stream.

In the erstwhile Lado Enclave, the white rhinoceros is not only true to type in refraining from crossing running water but exhibits a curious disinclination to drinking at the Nile, the immediate vicinity of which it avoids—and why?

I have insufficient personal experience of the local situation to claim definitely that the white rhinoceros never drinks at the Nile though this may be the case.

There are various localities in the West Nile District in which its nightly peregrinations for the purpose of drinking lead directly towards the great river, but if the spoor is followed up I have discovered invariably that it leads to a pool or swamp some distance short of the Nile.

The black rhinoceros on the other hand does not display the same antipathy to this river and not infrequently comes down to the opposite bank to drink.

The above remarks, I hope, will be accepted as sufficient reason for the lack of enterprise on the part of either species of rhinoceros in undertaking the crossing of the Nile when nature offers an opportunity.

Although the blockage may extend along the river for several hundred yards with all the appearance of the surrounding countryside and dry land, an unerring instinct probably warns these creatures of the hidden moving waters below and deters them from attempting the venture.

As far as I am aware nothing is known of the capabilities of the rhinoceros as a swimmer, and if the art of swimming is not included in its accomplishments there is no necessity to seek further for enlightenment. Also, to test whether or no the rhinoceros can swim would be no easy matter.

A theory, sometimes propounded, that this peculiarity of the rhinoceros is due to a dread of crocodiles is untenable, for there is no special avoidance of crocodile-infested waters.

In spite of its ponderous proportions there is a case on record of a three-quarters-grown example seized by a hind-leg as it left the watering-place being pulled under and drowned after a grim struggle with a crocodile.

The above remarks should constitute sufficient reason for the Nile's continued efficacy as a definite barrier between the two species, notwithstanding the periodical occurrence of a dry crossing.

It is this curious aversion to traversing running water which accounts for the present-day extraordinary, discontinuous distribution of the white rhinoceros which, as is probably known, in the north is confined to the West Nile District and West Madi region of Uganda, a restricted area of the adjacent Sudan and north-east Belgian Congo, and possibly a few still remain in a tiny portion of neighbouring French Territory, and then one must cross the River Zambezi before its last stronghold in the south is encountered.

There is no evidence that within historical times this species occurred anywhere on the left bank of the Zambezi. If it did it is unlikely, though not impossible, that it should have disappeared completely while its black cousin has survived.

There is evidence that in a remote past prior to the last pluvial period, coincident with the glacial period in Europe, the two existing and widely separated white rhinoceros habitats of the north and south were joined by well-stocked plains and savannah.

With the advent of the pluvial period the great equatorial forest originating in the west crept across the continent to the east coast, at the same time spreading extensively to the south-east and north-east, cutting off the northern from the southern savannah.

It is reasonable to expect that during the subsequent period of progressive desiccation and consequent steady recession of the forest—the period in which we live—this animal would have re-established itself in the region between the equator and the Zambezi. But it seems that the location of the River Nile, the lakes and scarps of the western rift, and the River Zambezi, coupled with the existing eastern boundaries of the equatorial forest, has effectively prevented the extension south or east of the range of the northern race, or of distribution to the north of the southern.

That the discontinuous distribution of the white rhinoceros is no mere accident but the result of a definite concatenation will probably be better understood and accepted, if at the same time attention is drawn to the fact that two other species, of localised habits, equally share in this curious distribution.

The species referred to are the lechwe, closely allied to the kobs and waterbucks, and the grotesque whale-headed stork, both of which are essentially marsh and swamp frequenting creatures.

The lechwe, represented by the handsome "Mrs. Gray" in the vast Nile swamps and sudd of the Sudan, is absent from Central and Eastern Africa until the Mweru-Bangweulu neighbourhood in N. E. Rhodesia is reached.

The whale-headed stork, a bird with restricted powers of flight, is widely distributed throughout the Nile sudd, its northern range extending as far south as the great papyrus swamps which fringe the Uganda shores of the Victoria Nyanza.

Thereafter although absent from the Central and Eastern African region it re-appears in the Katanga district of the Belgian Congo, adjacent to N. E. Rhodesia.

The theory outlined to account for the wide separation of the existing white rhinoceros habitats seems equally convincing in connection with both the lechwe and whale-headed stork, and in their cases the type of country now intervening is sufficient reason for no extensions of range respectively to the south and north as a consequence of the recession of the forest.

It is unlikely that the theories advanced will meet with general approval, but, as the extraordinary discontinuous distribution of the white rhinoceros does appear to depend to a great extent, if not entirely, on the aversion to crossing running water as above explained, I trust that any known contradictory factors will be published in a later issue of the "Journal".

Finally I would like to mention that I am indebted to an eminent member of the Geological Survey of Uganda for valuable comments on the relevant portion of these notes.

I once read an article explaining as above the curious distribution of the white rhinoceros as now known and so had the temerity to write, "It has been recorded" inviting well-merited rebuke which not only referred to me as "you cave-man" but *inter alia* asked "Who did the recording? Type-writers were not invented: what a lovely epoch!"

Yours, etc.,

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ENTEBBE,

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