

A note on the challenge rituals of territorial male Lechwe

by

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I. INTRODUCTION

A number of papers have been published on the lechwe dealing with various aspects of their biology and behaviour (Allen, 1965; Robinette & Child, 1964; de Vos & Dowsett, 1966; and Child & von Richter, 1968). Territorial behaviour of the lechwe was first reported by de Vos & Dowsett (1966). Their paper however considered only the general behaviour pattern of the species and population dynamics of lechwe in Zambia.

During a visit to the Moremi Game Reserve in Botswana in October, 1971, territorial behaviour by territorial male lechwe was observed on the flood plains. With the aid of Mr. Clem Haagner, the well known wildlife photographer, the author was able to obtain a photographic record of the challenge ritual in this species.

II. THE TERRITORY

Lechwe in the Moremi Game Reserve occur only on the seasonally inundated grasslands of the flood plains. Territories in the area were invariably situated along a stretch of open water or depression containing water. Not all the territories had common boundaries, although most were situated along the verge of open waters. It was found that the territories occupied by the lechwe males never exceeded a diameter of 150 m to 200 m. De Vos & Dowsett (1966) found that the territories of lechwe in Zambia were also small, never exceeding a diameter of 50 to 100 m.

Female herds, sometimes accompanied by sub-adult, non-territorial males apparently had home ranges which would include all, or almost all territories in a specific area. Male herds were noticed grazing in the proximity but no instance was recorded where they crossed or approached territorial soil. Male herds as well as female herds were also noticed in areas where no territorial activity took place.

III. THE CHALLENGE RITUAL

In most ungulate species a natural selection for the best males takes place. This selection is often achieved through territoriality — as one finds in lechwe. The breeding of these "selected" males, who are also the carriers of important genes, is a basic need in the concept of survival of the species. However, to limit injuries to the "gene reservoir" actual physical aggression between territorial males has to be limited. This is achieved by the evolution of ritualized challenges in the place of lethal contests. In this way, injury to territorial males, through actual combat, is limited without losing the peripheral effect. The challenge rituals of various animal species have been described by a number of ethologists of which Estes's (1968) analyzes of the

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Plate 1. A lechwe male in a stance for visual advertisement of his territorial status by showing the light coloured blaze under his throat and erection of his penis. In the background a female herd can be seen grazing. Photo: C. Haagner.

challenge ritual of the wildebeest (*Connochaetus taurinus*) is probably the most detailed.

It was found that challenge rituals in lechwe almost invariably took place on the territorial boundaries — peripheries. Darling (1952) suggested that territorial conflict was actually sought after for the sake of stimulation. This appears to be the case with lechwe. In the challenge ritual of lechwe there are a number of agonistic displays as well as several displacement activities. The approach consists of one of the males slowly moving towards the boundary of his territory. This approach is interrupted by pauses for grazing or the assumption of an erect posture with head held high, hind feet slightly apart, looking into the distance (see plate 1). This may be called the broadside on display. In this stance the almost white blaze under the throat is displayed. This is one of the most important visual advertisements carried out by the territorial lechwe male on his territory. Sometimes the broadside on display would be accompanied by an erection of the penis. During this movement towards the boundary, the male from an adjoining territory, if not already on the boundary of his own territory,

would approach the common boundary to intercept the approaching male.

A number of individual variabilities exists from here onwards in the sequence of subsequent events. During the following agonistic displays several displacement activities are also shown. On approaching the communal boundary, and one another, they may immediately engage in combat. This combat however, is very ritualized, consisting of butting the heads and locking the horns (see plate 2). Combat activities are usually of very short duration. In some cases the males move, close and parallel to one another down the communal boundary (see plate 3). These patrols are interrupted by frequent displays viz. the broadside on stance and "horning."

Horning has been described in wildebeest (Estes, 1968), Uganda kob (Leuthold, 1966), Impala (Schenkel, 1966) and also domestic cattle. Estes (1968) is of the opinion, with most other ethologists, that horning is a high intensity threat display and this seems to be the case in territorial male lechwe as well, since this activity is normally only displayed during the challenge ritual (see plate 4).



Plate 2. Two territorial males from adjoining territories about to lock in combat at their common boundary. Photo: C. Haagner.

It was also noticed that the two territorial males so engaged alternated their threat displays with displacement activities. In plate 4 the male on the right can be seen executing a horning display. The male on the left is doing a displacement activity — an alarm display — so as not to see the challenge directed at him. Almost immediately afterwards the male on the left answers with a broadside on threat display (plate 5) while the male on the right is busy with a displacement activity, in this instance grazing. On occasion, after being engaged in some high-tension displays, one of the males would do a broadside on display and actually ejaculate semen.

Peripheral activity is usually ended by one of the territorial males breaking off the engagement. This is normally done with some displacement activity, for instance grazing away from the communal boundary. The other male then normally also loses interest.

IV. ABSTRACT

Territorial lechwe males in the Moremi Game Reserve normally occupies territories with a diameter

of between 150 to 200 m. Female herds occupy home ranges which encompasses all the male territories. Challenge rituals takes place on communal territorial boundaries. Various agonistic displays as well as displacement activities is described.

V. ACKNOWLEDGEMENTS

I am indebted to Mr. Clem Haagner who made the visit to Botswana a reality. He is also thanked for permission to use some of the photographs illustrating this paper. Mr. C. G. Coetzee and Mr. M. Penrith is thanked for critically reading through the manuscript.

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Plate 3. Two territorial males from adjoining territories patrolling a communal boundary.

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Plate 4. A territorial male busy with horning. Photo: C. Haagner



Plate 5. The male on the left is occupied with a threat display while the male on the right is showing displacement grazing. Photo: C. Haagner.