

THE PAST AND PRESENT GEOGRAPHICAL DISTRIBUTION  
OF THE PERISSODACTYLA AND ARTIODACTYLA  
IN SOUTHERN AFRICA

by

Sarel Francois du Plessis

Submitted in partial fulfilment of the  
requirements for the degree of

Magister Scientiae

in the

Faculty of Science

University of Pretoria

Pretoria,

December, 1969.

C O N T E N T S :

|  | <u>PAGE:</u> |
|--|--------------|
| Abstract.....  | iii          |
| <u>1. Introduction:</u>  |              |
| 1a. Aims.....  | 1            |
| 1b. Methods applied.....   | 2            |
| 1c. Groups studied.....  | 3            |
| 1d. Area under investigation.....  | 5            |
| 1e. Period under consideration.....  | 5            |
| 1f. Mapping and codification to indicate<br>distribution of different species..... | 5            |
| 1g. Earlier investigations.....  | 5            |
| <u>2. Order Perissodactyla:</u>  |              |
| <u>Diceros bicornis</u> (Black rhinoceros).....                                    | 8            |
| <u>Ceratotherium simum</u> (White rhinoceros).....                                 | 19           |
| <u>Equus quagga</u> (Extinct quagga).....  | 31           |
| <u>Equus zebra zebra</u> (Mountain zebra).....                                     | 35           |
| <u>Equus zebra hartmannae</u> (Mountain zebra).....                                | 39           |
| <u>Equus burchelli</u> (Burchell's zebra).....                                     | 43           |
| <u>3. Order Artiodactyla:</u>  |              |
| <u>Potamochoerus porcus</u> (Bushpig).....   | 53           |
| <u>Phacochoerus aethiopicus</u> (Warthog).....                                     | 58           |
| <u>Hippopotamus amphibius</u> (Hippopotamus).....                                  | 65           |
| <u>Giraffa camelopardalis</u> (Giraffe).....                                       | 74           |
| <u>Cephalophus natalensis</u> (Red duiker).....                                    | 84           |
| <u>Cephalophus monticola</u> (Blue duiker).....                                    | 87           |
| <u>Sylvicapra grimmia</u> (Grey duiker).....                                       | 90           |
| <u>Raphicerus campestris</u> (Steenbok).....                                       | 98           |
| <u>Raphicerus melanotis</u> (Grysbok & Sharpe's grysbok).....                      | 106          |
| <u>Ourebia ourebi</u> (Oribi).....   | 111          |
| <u>Nesotragus moschatus</u> (Suni).....  | 117          |
| <u>Oreotragus oreotragus</u> (Klipspringer).....                                   | 119          |
| <u>Madoqua kirki</u> (Damara dikdik).....  | 126          |
| <u>Pelea capreolus</u> (Vaal rhebok).....  | 127          |
| <u>Redunca fulvorufula</u> (Mountain reedbuck).....                                | 133          |
| <u>Redunca arundinum</u> (Reedbuck).....   | 138          |
| <u>Kobus ellipsiprymnus</u> (Waterbuck).....                                       | 145          |
| <u>Kobus vardoni</u> (Puku).....   | 151          |
| <u>Kobus leche</u> (Lechwe).....   | 154          |
| <u>Aepyceros melampus</u> (Impala).....  | 157          |
| <u>Aepyceros petersi</u> (Black-faced impala).....                                 | 166          |



45

|   |     |
|---|-----|
| <u>Antidorcas marsupialis</u> (Springbuck).....         | 167 |
| <u>Oryx gazella</u> (Gemsbuck).....                     | 178 |
| <u>Hippotragus equinus</u> (Roan antelope).....         | 184 |
| <u>Hippotragus niger</u> (Sable antelope).....          | 191 |
| <u>Hippotragus leucophaeus</u> (Extinct bluebuck)....   | 196 |
| <u>Damaliscus lunatus</u> (Sassaby).....                | 198 |
| <u>Damaliscus dorcas dorcas</u> (Bontebok).....         | 205 |
| <u>Damaliscus dorcas phillipsi</u> (Blesbok).....       | 209 |
| <u>Alcelaphus buselaphus</u> (Red hartebeest).....      | 216 |
| <u>Alcelaphus lichtensteini</u> (Lichtenstein's " ")..  | 225 |
| <u>Connochaetes gnou</u> (Black wildebeest).....        | 228 |
| <u>Connochaetes taurinus</u> (Blue wildebeest).....     | 235 |
| <u>Tragelaphus scriptus</u> (Bushbuck).....             | 245 |
| <u>Tragelaphus spekei</u> (Sitatunga).....              | 252 |
| <u>Tragelaphus angasi</u> (Nyala).....                  | 254 |
| <u>Tragelaphus strepsiceros</u> (Kudu).....             | 258 |
| <u>Taurotragus oryx</u> (Eland).....                    | 267 |
| <u>Syncerus caffer</u> (Buffalo).....                   | 279 |
| <u>4. Causes of changes in number and distribution:</u> |     |
| 4.1.The advance of human activity.....                  | 291 |
| 4.2.European hunting.....                               | 294 |
| 4.3.Native hunting.....                                 | 301 |
| 4.4.Epidemic diseases.....                              | 308 |
| 4.5.Game clearance operations.....                      | 309 |
| 4.6.War.....  | 311 |
| 4.7.Geographical isolation.....                         | 311 |
| 4.8.Conclusions.....                                    | 312 |
| 5. Bibliography.....                                    | 313 |

Abstract:

In this investigation an attempt is made to determine the widest known distribution of certain mammal species, and to compare their former ranges with their present ones.

The groups studied include 43 species or subspecies of the orders Perissodactyla and Artiodactyla that still occur in the area under discussion as well as two extinct species that occurred there during historical times.

The area under investigation comprises the whole of southern Africa to the south of the Cunene river in the west and the Zambezi river in the east. This includes the Republic of South Africa, Botswana, Lesotho, Swaziland, South West Africa, Rhodesia and Mocambique to the south of the Zambezi.

The investigation is limited to the period extending from the first European settlement at the Cape under Jan van Riebeeck in 1652 up to the present.

The former ranges of the different species or subspecies have been derived from the following types of sources:

i. unpublished literature such as reports, memoranda and other official documents as found in various archives and government departments;

ii. published books or journals of travel, hunting and scientific discovery as written by various travellers, hunters or scientists who had traversed certain areas in the past;

iii. the works of historians, missionaries and others have also added incidental information;

iv. charts, maps, drawings, rock paintings and place names .

The present status and distribution of the mammals concerned have been ascertained from the published or unpublished reports, bulletins or annals of various government departments or societies as well as from articles published in scientific journals.

The widest distribution of each species is compared with its present distribution and changes in the distribution pattern noted. In each case both the past and present distributions are indicated by means of a double map.



In most cases it has been found that the area of distribution as well as the numbers of the species involved have both declined to a large extent. The proximate causes for these changes have been investigated and the conclusion is made that destruction of available habitat owing to increased human activity is primarily to blame. This is closely followed by hunting in all its forms, especially the more efficient type of hunting as practised by the white hunter. Other lesser causes such as diseases, tsetse fly control and others, are also considered.

Samevatting:

In hierdie ondersoek word getrag om die wydste, bekende verspreiding van sekere wildsoorte te vergelyk met hulle huidige verspreiding.

Die wildsoorte sluit 43 species (soms sub-species) van die ordes Perisso- en Artiodactyla wat tans nog in die betrokke gebied voorkom in, asook twee uitgestorwe species wat vroeër wel daar aangetref was.

Die verspreidingsgebied onder bespreking sluit die hele suidelike Afrika, d.w.s. die gebied suid van die Cunenerivier in die weste en die Zambezirivier in die ooste, in. Hierin is geleë die Republiek van Suid-Afrika en sy mandaatgebied Suid-Wes Afrika; asook die state Rhodesië, Mosambiek, Botswana, Lesotho en Swaziland.

Die tydperk waartoe die ondersoek beperk is, neem n aanvang met die koms van die eerste Europese nedersetters aan die Kaap onder Jan van Riebeeck in 1652 en strek tot die huidige, d.w.s. n tydperk van 317 jaar.

Gegewens aangaande die wydste verspreiding van die genoemde species is ingewin uit die volgende tipes bronne:

- i. ongepubliseerde verslae, korrespondensie en ander amptelike stukke soos in argiewe gevind;
- ii. gepubliseerde dagboeke, reisverhale en verslae van reisigers, jagters, wetenskaplikes en handelaars wat die genoemde gebied verken of deurreis het;
- iii. werke van geskiedskrywers of sendelinge waaruit soms toevallige inligting verkry is;
- iv. kaarte, tekeninge, skilderye en plekname.

Gegewens aangaande die huidige verspreiding is verkry uit gepubliseerde en ongepubliseerde artikels en verslae van dierkundiges, verenigings, staatsdepartemente en andere soos verskyn het in jaarverslae, wetenskaplike tydskrifte en bulletins.

Elke species (of soms sub-species) se wydste, bekende verspreiding in die verlede is voorts vergelyk met die huidige en die verandering in verspreidingspatroon aangetoon. Ook is daar in elke geval gepoog om d.m.v. twee kaarte die verspreiding in die verlede en in die hede aanskoulik voor te stel.

In die meeste gevalle is gevind dat die verspreidingsgebied asook die getalle van die genoemde spesies in 'n groot mate verklein het. Die oorsake vir genoemde afname is nagegaan en daar is tot die slotsom geraak dat die vernietiging van die natuurlike habitat te wyte aan toenemende menslike bedrywighede die grootste rol gespeel het. Hierna het jag in al sy vorms, veral die meer doeltreffende jagmetodes van die blanke jagter, gevolg. Ander faktore soos bv. epidemiese siektes, wat 'n kleiner invloed gehad het, word ook genoem.