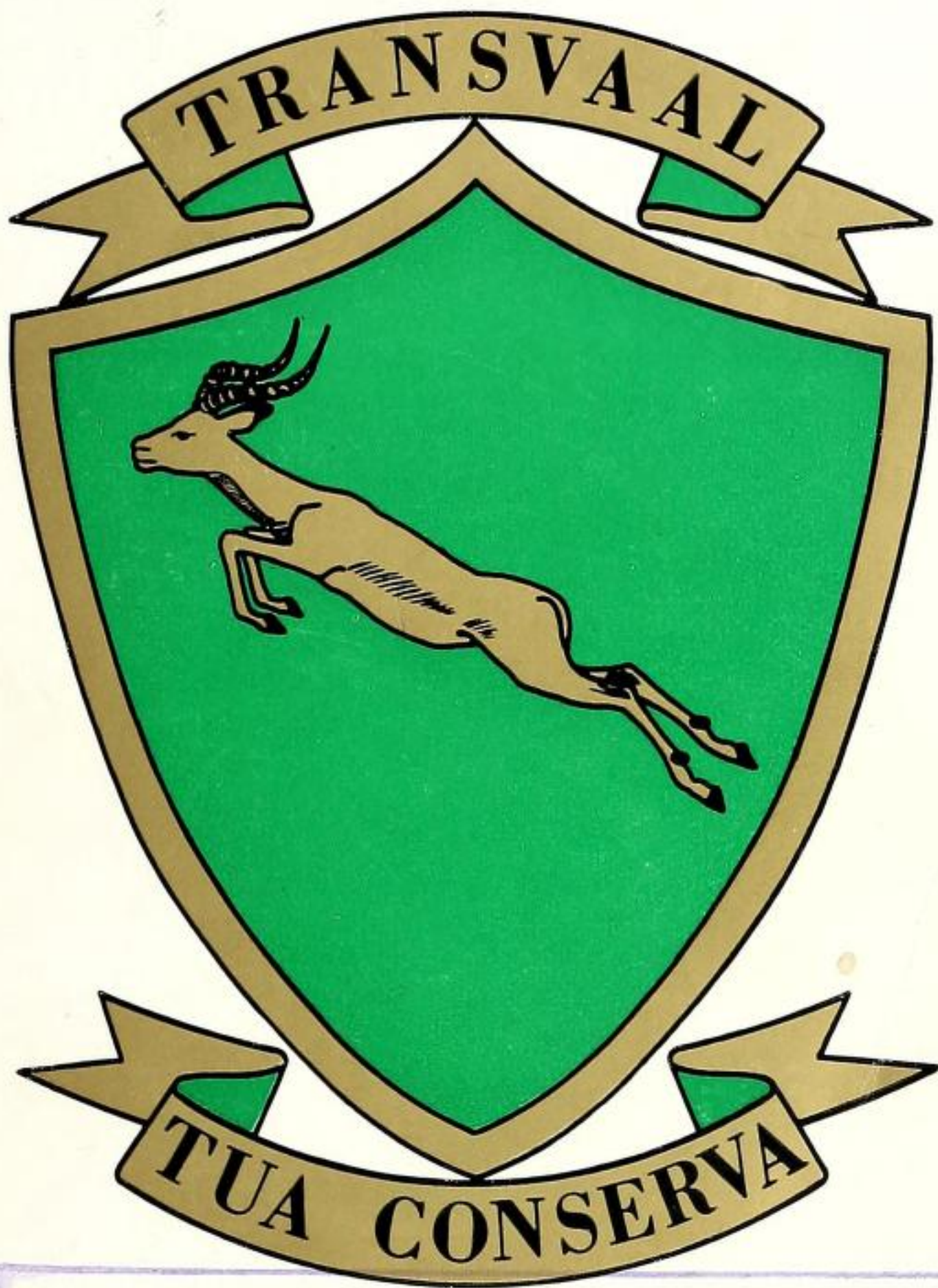




Square-lipped rhinos in the Loskop Dam Nature Reserve.



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We are grateful to those friends who have helped us with photographs.

The Extermination of the
Square-Lipped or White Rhinoceros
(*Ceratotherium simum simum* (Burch.))
In Transvaal and its Reintroduction.
A Historical and Critical Review

Dr. R. Bigalke

IN his treatise on the Mammals of South West Africa, Shortridge (1934) states that a horn figured by Parsons (1743) is the first record of the White Rhinoceros. Sclater (1900, I, p. 299) also includes this reference in his list of literature. As there was some doubt about the validity of Shortridge's statement, Mr. R. W. Hayman of the British Museum kindly looked up the reference for me. In a letter dated 21 May, 1963, he writes that the greater part of Parsons' article deals with what earlier writers wrote about the Indian Rhinoceros that reached Lisbon in 1513 and that was figured in an exaggerated manner by Dürer (in the year 1515; Gowers, 1950, and a subsequent note with illustration). After having commented on the inaccuracies in Dürer, Parsons devotes several pages to a detailed description of an



Square-lipped Rhinos in the Loskop Dam Nature Reserve and Public Resort.
Photo: Chris Pisart.

Indian Rhinoceros brought to London in 1739. At the end of this article he points out that the African Rhinoceros has two horns, *but he does not describe or name any African rhino*. On plate III of his paper he has nine separate figures illustrating various parts of the rhinoceroses known to him, including separate horns. Figure 6 has the caption "A beautiful Horn in Dr. Mead's Museum, being about 37 inches long". But it is not indicated where this horn came from. The supposition that it might be the horn of a Square-lipped Rhinoceros seems to be based only on its length. Since, however, the anterior horn of the Black Rhinoceros (*Diceros bicornis*) may exceed 37 inches in length (Best, etc., 1962), there is nothing to show that the horn figured by Parsons is indeed that of a Square-lipped Rhino. It is clear, therefore, that the claim that the earliest record of the Square-lipped Rhino is that of Parsons must be rejected.

In the years 1797 and 1798 John Barrow went on a journey into the interior of South Africa and published an account of his travels in two volumes. In the first volume (1801) he writes as follows: "In our descent of the mountain we were driven to seek shelter from the violence of the rain in a mixed horde of Bastards and Namaaquas. The chief was of the former description. In his younger days he had been a great lover of the chace, and his matted hut within still displayed a variety of the skins of animals that had fallen before his piece. He boasted that, in one excursion, he had killed seven camelopardales and three white rhinoceroses. The latter is not uncommon on the skirts of the colony behind the Hantam mountain, and seems to be a variety only of the African two-horned rhinoceros. It differs from it in color, which is a pale carnation, in size, which is considerably larger, and in the thinness of its skin; all of which may perhaps be the effects of age."

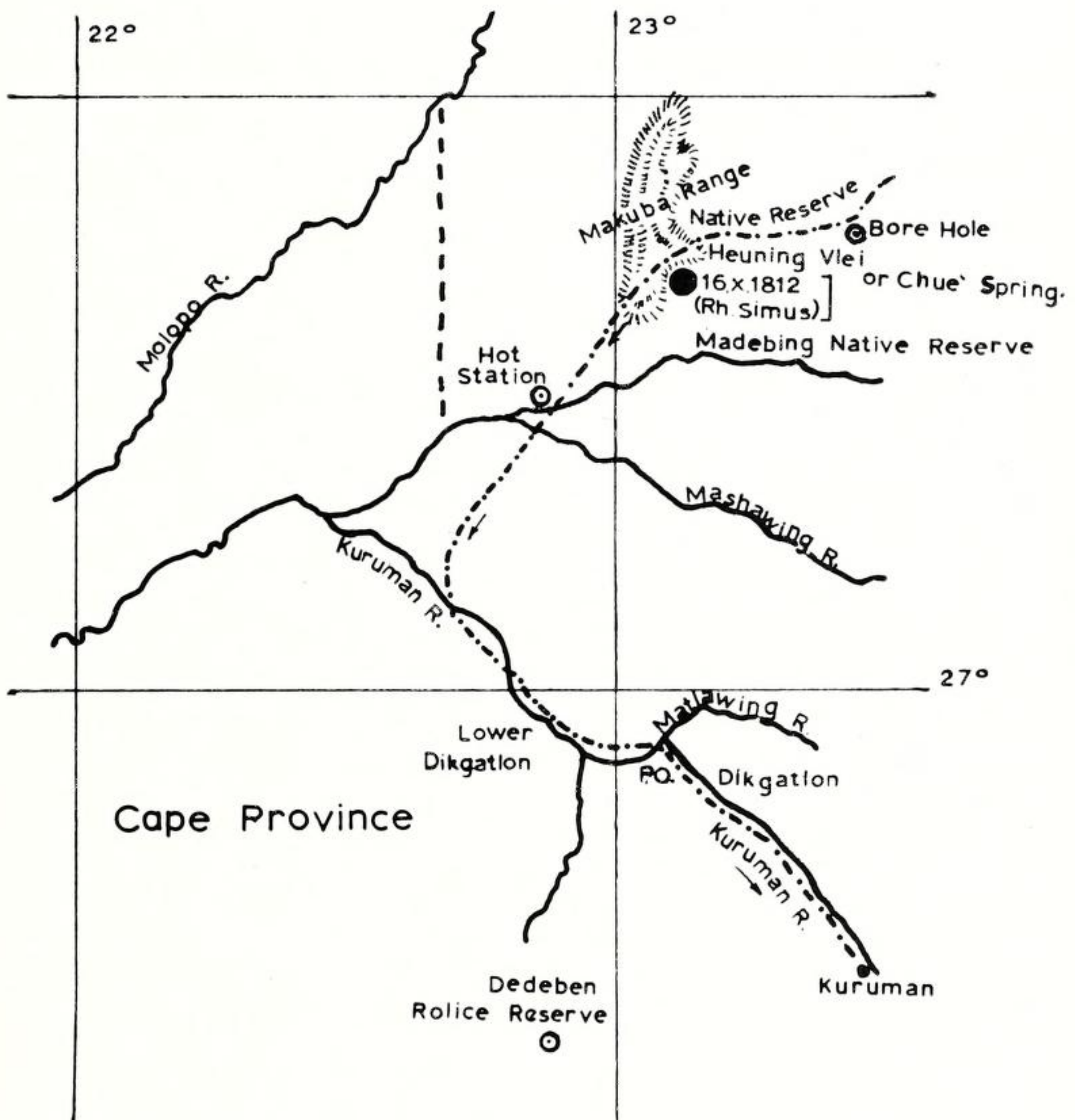
A full-grown Square-lipped Rhinoceros is indeed a larger animal than a full-grown Black Rhino, but Barrow does not make it clear whether he saw any of these so-called "white rhinoceroses" himself or had any personal knowledge of the animals. The strange body colour that he mentions suggests that this was not the case, and it is clear from his account that he is uncertain of the animal's identity. Hence it can neither be claimed that the rhino referred to by Barrow was *Ceratotherium simum simum* nor that it formerly occurred in Namaqualand. Shortridge (1934) points out that there seems to be no authentic record of the occurrence of *C. simum simum* anywhere south of the Orange River.

The Square-lipped or White Rhino was first recognised as a new species and described scientifically by W. Burchell (1817) in a French journal. He came across this huge mammal for the first time on the 16th October, 1812, in what is now the Northern Cape Province in the locality of Chué Spring or Heuningvlei (app. Lat. 26° 15' S, long. 23° 10' E) on the Makuba Range about eighty miles north-north-west of the town of Kuruman (see the accompanying map after Cave (1947)). Burchell's accurate drawings, now the property of the Gubbins Trustees in Johannesburg, have been published in Cave's paper. As the records of both Parsons and Barrow must be rejected on account of the reasons already given, the year 1812 must be accepted as the earliest reliable record of the presence of the Southern Square-lipped Rhinoceros (*C. simum simum*) in South Africa.

The object of this article is to try and establish when *C. simum simum* became extinct in Transvaal. For this purpose it will be necessary to examine the historical records as far as they have a bearing on this matter.

From the accounts of the early hunters and travellers, it is clear that the Southern Square-lipped Rhinoceros was formerly widely distributed over southern Africa. It was found in what are now Southern Angola, part of

South-west Africa, Bechuanaland, Southern Rhodesia, Transvaal, Zululand and at least a part of Portuguese East Africa. It is generally accepted that it did not occur south of the Orange River. Bryden (1893) doubts this but does not have any satisfactory evidence in support of his opinion. It has been doubted whether the animal formerly occurred in what is now the Orange Free State. Kirby (1920, p. 224) states that evidence is not wanting that it once ranged far south of the Vaal River, but unfortunately he does not furnish the evidence. Selous (1899, p. 53) is of the opinion that there is no reason why some Square-lipped Rhinos should not have crossed the Vaal River into the Orange Free State at certain times of the year. In view of this opinion, a recent communication from Dr. A. C. Hoffman of the National Museum in Bloemfontein is of special interest. In a letter of 4 July, 1963, he states that about two years ago he received a fine skull of *C. simum simum* that had been found in the Vals River near Kroonstad in the Orange Free State, that is to say in a tributary of the Vaal River. The museum also has parts of a semi-fossilised skull received many years ago from Fauresmith in the south-western Free State.



Map redrawn after Cave (1947, with a corrected name) showing the type locality of *Ceratotherium simum simum*.

In 1893 an imperfect skull of a Square-lipped Rhino was dug out of black peaty soil at a depth of eight feet about twelve miles from the Vaal River in the Kimberley district. Sclater (1900, p. 302) claims that this is the southernmost locality recorded up to that time. There seem to be no subsequent records of non-fossilised remains having been found further south. Sclater does not state whether this skull was found on the northern or southern side of the river, and unfortunately the present director of the S.A. Museum can shed no light on the matter. But in the Surveyor-General's map of the Cape of Good Hope and neighbouring territories published in the year 1895, one finds that most of the northern and the whole of the western boundary of the Kimberley district was at that time formed by the Vaal River; at no point did the northern or western boundary extend beyond this river. There can be very little doubt, therefore, that the skull mentioned by Sclater was found on the *southern* side of the Vaal River.

Heller (1913) as well as Player and Feely (1960) have published maps showing the general distribution of the White Rhino in Africa in former times. That part of Heller's map that shows Southern Africa and gives a number of actual records is reproduced here. It has been redrawn on a larger scale and the present names of the territories have been substituted. Player and Feely's map differs somewhat from that of Heller on the southern and eastern sides.

Selous (1899, p. 54) says that when he first visited South Africa in 1871, the range of the White Rhinoceros "had been very much reduced since the days of Cornwallis Harris, but these animals were still numerous in the uninhabited districts of Matabeleland, Mashunaland, Gazaland (i.e. southern Mozambique—author) and Zululand, as well as certain portions of the Eastern and South-eastern Transvaal". In the same account (p. 58) he writes that although it "has always been known that a few white rhinoceroses still survived in a certain district of Northern Mashunaland, I think it is generally believed that by 1890 this species had become extinct in every other part of South Africa".

In his book entitled "Game and Gold", the date of publication of which is not furnished but may have been 1926, Glynn writes as follows (p. 56): "During the interval between the first and second Sekukuni wars, my father and I decided to go down to Pretorius Kop, and on the 25th June, we set out for the hunting grounds with some Boer friends". As the first Sekukuni War ended on 15 February 1877, and the second war started in February 1878 (Theal 1919), the date of departure of the hunting expedition was 25 June 1877. Glynn continues: "Black rhinos were killed by us on the opposite side of the Crocodile River, where Nelspruit Station is today, and white rhinos were in the country low down on the Sabie River on the edge of the Matemere Bush". In another passage (p. 113) he writes that "black rhinos were found in the rough country down below White River, Nelspruit and extending across the Oliphants River; there were a few white rhinos also."

Kirby, writing in 1896 (p. 9), says that "both species of rhinoceros are now practically extinct, the square-mouthed being altogether so". In a footnote he gives the following additional information: "For many years past the well-known Matamiri bush, lying along the south bank of the Sabi River, has been a favourite resort of *Rhinoceros simus*, but they have become almost extinct now even there. This year (1895) I came upon two in that district, a cow and big calf; but they are decidedly rare". He has a further reference to the animal in Appendix I of the book (p. 550), where he writes that "with the exception of perhaps three or four individuals still lingering in the Matamiri bush to the south of the Sabi, the square-mouthed

rhinoceros (*R. simus*) is also extinct in this district". The latter statement seems to contradict the previous one, but as he thanks Dr. Sclater, Secretary of the Zoological Society of London, "for the assistance rendered in connection with the scientific portions of the work (p. x)", it is possible that a considerable interval elapsed between what he wrote in the appendix and the statement in the body of the book, namely that the Square-mouthed Rhino was altogether extinct in the Matamiri bush in 1896.

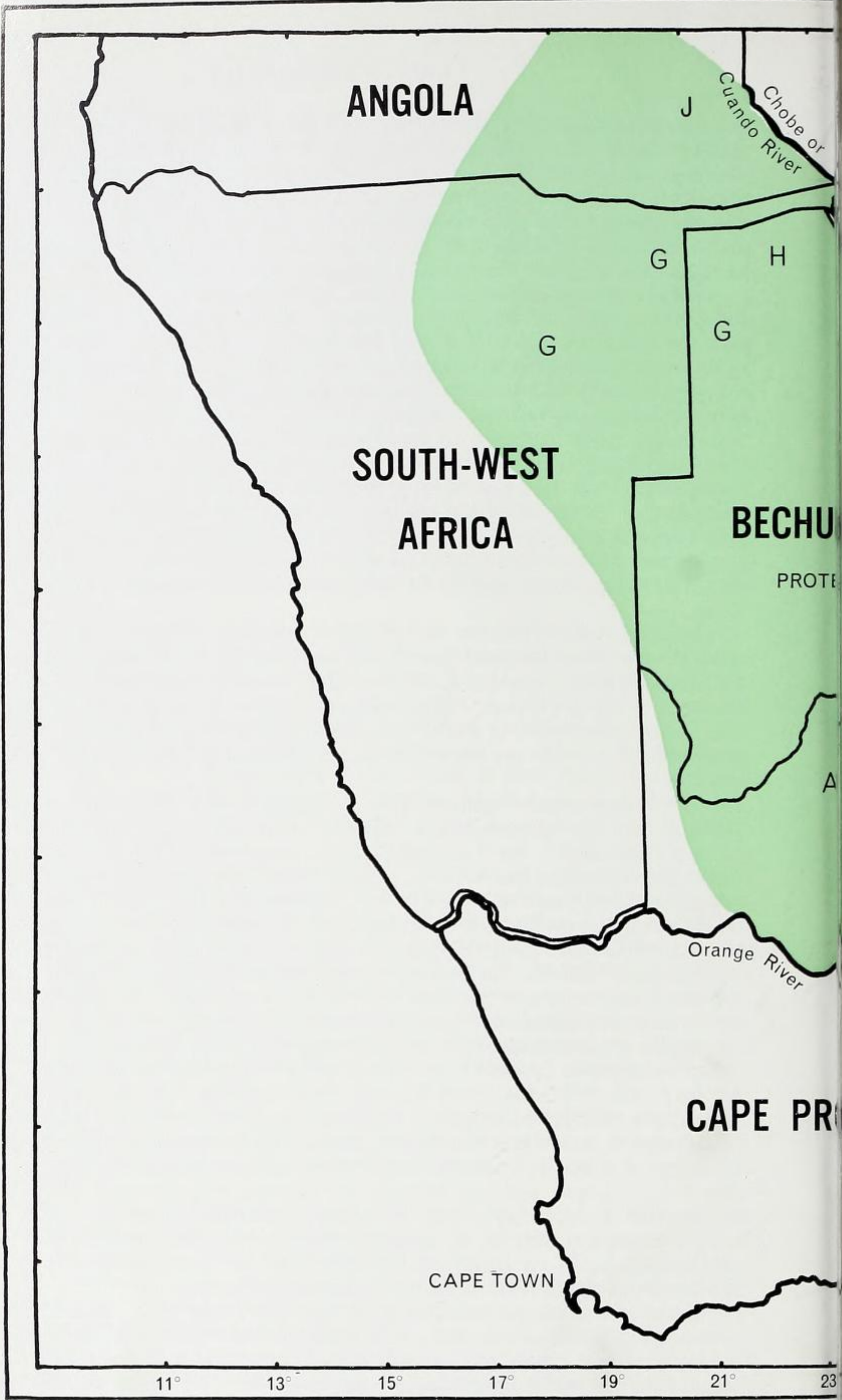
Before proceeding with this account, it is necessary to say something about the spelling of Bantu geographical names. Anyone who delves into the writings of the old hunters and travellers in Africa is soon struck by the variation in the spelling of names, with the result that it is sometimes difficult to recognise the various spellings used for any particular place. The fact that Bantu orthography has not yet been fixed may lead to confusion. Thus the "Matemere bush" referred to by Glynn as being "low down on the Sabi River" is undoubtedly the same that Kirby refers to as the "Matamiri bush". "Matamiri" was used for a long time but has recently been changed to "Nwatimhiri". One can only express the hope that finality of spelling has now been attained. In the low veld of Transvaal confusion becomes even greater when names that have appeared on the maps for a long time are replaced by new ones. Thus the Mbabat River has now become the Timbavati River.

Another difficulty is the use of the same names in different parts of the subcontinent. Thus the Sabi River (now spelt Sabie) in the Eastern Transvaal is a tributary of the Komati River, but there is also a Sabi River in Southern Rhodesia flowing through Mozambique (where it is the Rio Save) directly into the Indian Ocean at Nova Mambone. Such matters must be borne in mind when old books are consulted about the former distribution of Africa's wild life.

In a recent paper Pienaar (1963, p. 23) states that "according to Glynn (1926) a few (i.e. Square-lipped Rhinos) remained near Lower Sabi until the later 'seventies'", but I cannot find any statement in Glynn's book to this effect. The sentence seems to be quoted from Stevenson-Hamilton (1950). Pienaar omits Glynn's reference to the "Matemere Bush", but quotes Hamilton who says that the White Rhinoceros certainly did not exist after the seventies of the last century (that is to say in what is now the southern part of the Kruger National Park—author). It must be emphasised that Stevenson-Hamilton did not reach the low veld of Transvaal until the year 1902, by which time this animal had already disappeared. Hence he had no personal knowledge of the status of the fauna in that area prior to that year. In point of fact he refers to Glynn's book and to what W. Sanderson told him (1950).

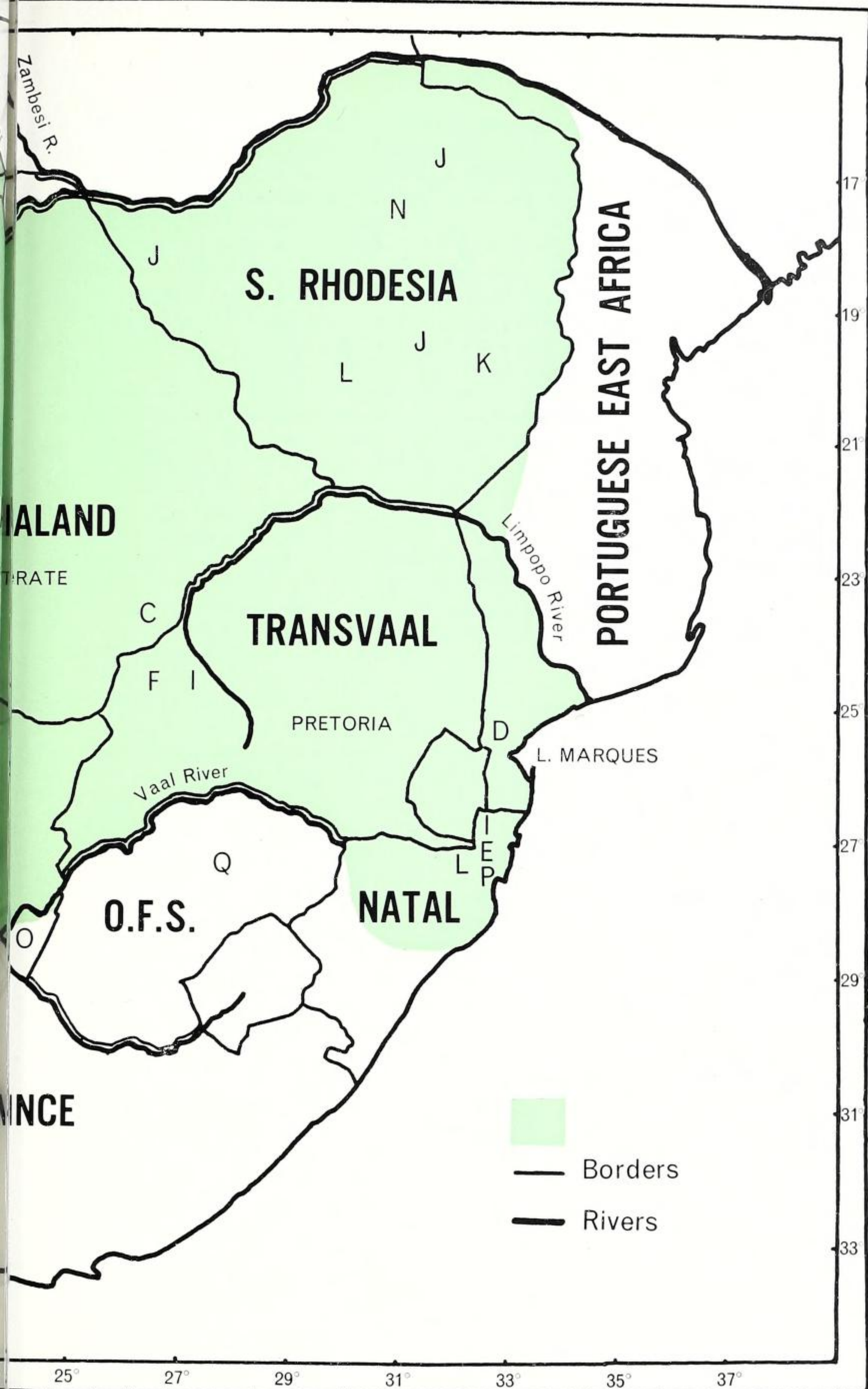
In a letter (1 May 1963) Pienaar informed me that he omitted any reference to what Kirby wrote in 1896 about the presence of the Square-lipped Rhinoceros in the "Matamiri Bush", because he has grave doubts about the reliability of Kirby's observation and believes that the animals seen by him were Black Rhinos, and also because the presence of a cow and calf in 1895 implies the presence of other full-grown animals, especially bulls. But Kirby's statement cannot be rejected on these grounds. Rejection is only valid if proof can be furnished to show that his observation was in fact based on a mistaken identification. Such proof is lacking.

Kirby was an experienced hunter, and there can be no doubt that he was well acquainted with both the White and the Black Rhino. While lamenting the death of two brave and devoted Bantu hunters (1896, pp. x and xi), he states that they had hunted together for *nine years*. He wrote another book in which he gives an account of hunting trips in Portuguese and other districts of East Central Africa. In this he expresses disappointment (1899, p. 337)



Map showing the general area of distribution of *Ceratotherium simum simum* in green. After Heller (1913). Redrawn on a larger scale with a few corrections and with the present names of the territories substituted. The letters indicate actual records according to Heller. Hoffman's record (1961?) has been added:

A Burchell, 1817: Northern Cape Province.	E de la Gorgue, 1847: Zululand.
B Campbell, 1822: Kuruman (Mashow).	F Cumming, 1850: Marico and Limpopo river; Kurrichane.
C Harris, 1838: Marico and Limpopo river.	G Andersson, 1856: Walfish Bay; south-west of Lake Ngami.
D Peters, 1842: Lourenço Marques.	



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| H Livingstone, 1857: Lake Ngami. | L Bryden, 1893, 1897: Mashonaland and Zululand. |
| I Baldwin, 1863: Amatongaland and Marico. | M Oswell, 1895: Molopo river and Mabotsè Station. |
| J Selous, 1881, 1893, 1894, 1899: Upper Chobe river; Mashonaland. | N Coryndon, 1894: Mashonaland. |
| K Nicolls and Eglington, 1892: North-east Mashonaland; Sabi river (i.e. in Mashonaland). | O Sciater, 1900: Kimberley. |
| | P Newton, 1903: Zululand. |
| | Q Hoffman, 1961?: Vals river in the O.F.S. |

“in not meeting with the square-mouthed rhino in the Mozambique Province, as I had expected to do”. In another passage in the same book (p. 133) he writes that “in no portion of that province (that is to say Mozambique—author) is the square-mouthed species found, nor is it known to natives”. This statement is open to doubt. It may just have happened that his route did not take him into parts where the animal was present. Its former distribution in Portuguese East Africa does not concern us here, but it may be noted that Peters (1852) writes that although he had no opportunity to examine the animal himself, he convinced himself of its presence by obtaining a pair of horns in Lourenço Marques which were still joined by skin.

What Kirby has written about the White Rhino in Portuguese East Africa has been referred to merely to furnish further proof of the fact that he had a good knowledge of this animal. It is important, also, to note that either the whole manuscript of his book “In Haunts of Wild Game”, or at any rate the subject matter of Appendix I, was submitted to so well-known a zoologist in his time as Dr. P. L. Sclater (*vide* above).

It does not necessarily follow that when Kirby saw a White Rhino cow and big calf in the “Matamiri Bush” in 1895, there must also have been other full-grown animals, especially bulls. He says that the calf was a big one, and in view of the totally uncontrolled slaughter of the wildlife of the low veld in the latter half of the nineteenth century, it is possible, and even probable, that the bull or bulls had already been killed. Kirby (1920, p. 231) states that a cow and calf without the bull are often seen together (in Zululand).

Another point made by Pienaar is that the Nwatimhiri bush is unsuitable for the Square-lipped Rhino because of the dense bush and comparative lack of grass. But in this connection Kirby (1920, p. 234) writes as follows: “It has always appeared to me that the white rhinoceros of Zululand is a more decidedly bush-loving animal than it is elsewhere; some of the streams are fringed with stretches of very dense bush, inside of which the ground is always moist and the air cool, and while it seems quite the correct thing to find buffalo congregating there, and any number of bushbuck, it appears incongruous to meet with white rhinoceroses in such places. Nevertheless these animals pass a very great deal of their time in these localities, and very often lie up for the day in them”. There is no reason to suppose that the Square-lipped Rhino did not behave in the same manner formerly in the dense bush along the Nwatimhiri River in what is now the Kruger Park. Constant harassing by numerous illegal hunters could have been responsible for their seeking shelter in the dense bush during day-time and leaving it at night to look for food and water further afield. A map of game habitats in Pienaar’s paper (1963, p. 16) shows that the dense thorn bush thickets around the confluence of the Nwatimhiri River with the Sabie River become “mixed Combretum Savanna Woodland” up-stream. The grazing in this habitat is described (p. 13) as being predominantly sweet and of excellent quality. He goes on to say that it is the outstanding game habitat that supports the largest ungulate community of any one area in the Park. When food was scarce in the Nwatimhiri bush, the White Rhinos that formerly occurred there had this adjacent mixed Combretum Savanna Woodland at their disposal for grazing.

Sometimes the Square-lipped Rhino is found in rocky territory. Thus Selous (1899, p. 67) noted in 1873 that he had seen many black rhinoceroses and one of the “square-mouthed” species “scrambling with great activity up and down steep stony hills”. But he believes that this animal had gone astray. Kirby (1920, p. 239) writes that he never found it high up on rocky hills, on which the Black Rhino likes to clamber about, but when put to it the White

Rhino can negotiate uncommonly steep and rocky places with agility, and further that the animals travel about the foot-hills.

According to Foster (1960, p. 28) "the Square-lipped Rhinoceros is wholly a grazer under normal conditions, but in times of drought, when there is a scarcity of grass, they also feed on small shrubs and a dwarf euphorbia *Stapelia* sp. (sic.)—Zulu isihlehle—as well as on the succulent stems of a leafless creeper *Sarcostemma viminalis*. On account of the sparsity of such plants within the high density area they cannot be regarded as a regular diet of the rhinos". Kirby (1920, p. 236) states that White Rhinos "undoubtedly do assimilate a certain quantity of leaves of low-growing ground plants which they take in their mouths along with the grass". He also refers to the presence of large tracts of "ihlehle" thorn in the Umfolozi Game Reserve, in which the majority of the White Rhinos in the vicinity are met with during the day sleeping inside them (1920, p. 235). In a letter dated 30th August, 1963, the Senior Warden of the Umfolozi Game Reserve, Mr. Ian Player, informs me that the plant called "isihlehle" by Foster is the common prickly pear (that is to say *Opuntia* sp.—author), and that the Square-lipped Rhino feeds on this in times of drought. He also states that Vaughan-Kirby planted prickly pear in certain parts of the Umfolozi Game Reserve in the year 1918. According to Player there is no record of the animal ever eating any kind of *Euphorbia* or *Stapelia*.

To sum up, therefore, we have the position that Selous recorded the presence of the Square-lipped Rhino in 1871 in certain parts of the Eastern and South-eastern Transvaal. He also states that it was generally believed that by 1890 the species had become extinct in every other part of South Africa (except North Mashunaland). He was, therefore, not aware of the few that remained in Zululand in that year, nor of those that must have survived in the Matamiri bush according to Kirby. In 1878 Glynn recorded its presence on the edge of the "Matamere Bush", and Kirby found a cow and big calf in the same bush in 1895. It is seldom possible to fix the exact year in which a wild animal disappeared from any particular habitat. But in the present instance there is no known reason for rejecting Kirby's statement that the animal disappeared from the "Matamiri Bush" in 1896. Perhaps a diary will be found at some future time that will shed additional light on this animal's former distribution in the low veld, or skulls may be found along the Nwatimhiri or the Sabie River or elsewhere.

Man was responsible for exterminating the Square-lipped Rhinoceros from the Transvaal Province, but after the lapse of about 65 years he was also responsible for bringing it back.

When the late Mr. P. Grobler, Minister of Lands at that time, opened the first meeting of the National Parks Board of Trustees on 16 September 1926, he drew special attention to the case of the Square-lipped Rhino and said that it would be a very good thing if this rare species were brought back to the Park (Bigalke, 1954). Some time later the late Mr. Herbert Lang proceeded to Zululand and submitted a report in May, 1928, dealing with proposals to capture some of the rhinos. It was only after modern methods of immobilizing game animals with organic drugs became available that this project was carried out. Two pairs from Zululand reached the Kruger Park on 13 October 1961, and another seven subsequently. More are being brought from the Umfolozi Game Reserve.

The Square-lipped Rhino has also been introduced into the Province outside the boundaries of the Kruger Park. Two bulls arrived at the Loskop Dam Nature Reserve and Public Resort on 2 April, 1963, and two cows on the fifth of the same month. For some time they are being kept in an enclosure about 10 morgen in extent, and later they will be let loose in the

Reserve. This group produced the first calf, a female, on 11 April 1964. This is a very important event, not only because it is the first calf of its kind born outside Zululand since the animal disappeared from the rest of South Africa, but also because it is the first one born in Transvaal since 1896.

In conclusion I would like to thank the following for the loan of literature or looking up old references or helping in other ways: Mr. R. W. Hayman of the British Museum, Dr. V. Fitzsimons, Dr. A. C. Hoffman, Dr. A. W. Crompton, Dr. F. H. Talbot, Mr. A. M. Brynard, Mr. Ian Player, Mr. C. J. Ward, and the librarians of the Africana Library, the Johannesburg Public Library and the State Library in Pretoria.

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The colour photo on the outside back cover page shows a White Rhino cow in the Loskop Dam Nature Reserve with a calf. This is the first of its kind born in Transvaal since 1896, the year in which the species became extinct in this Province.

Photo by Dick Wolff.

