

A chronological survey of bibliographical and iconographical sources on rhinoceroses in southern Africa from 1795 to 1875: reconstructing views on classification and changes in distribution

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Rhinoceroses were widespread in southern Africa at the end of the eighteenth century, but by 1875 their range was much reduced. The changes in distribution that occurred during this period can be reconstructed from a close examination of the written evidence left by travellers, from the drawings and paintings produced by artists in the field, and from the specimens that were destined for museum and other collections in Europe. As the southern African interior was explored and settled, several new species of rhinoceros were described, including *Rhinoceros simus* by Burchell in 1817, *Rhinoceros keitloa* by Andrew Smith in 1836, *Rhinoceros niger* by Schinz in 1845 based on travels by Alexander, and *Rhinoceros oswelli* by Elliot in 1847. From the late 1840s, it was usual to recognise four species of rhinoceros in southern Africa, called locally Borele, Keitloa, Muhoohoo and Kiaboaba. In 1875, Drummond recognised five types, and some hunters even exceeded this number. Selous, however, convincingly advocated that only two species should be recognised, the black rhinoceros *Diceros bicornis* and the white *Ceratotherium simum*.

The purpose of this monograph is to document evidence of rhinoceroses in southern Africa and it includes locality records, illustrations and lists of specimens. All locality records of rhinoceroses are given with coordinates, while maps show the nineteenth-century ranges of both black and white rhinoceroses in the present countries of South Africa, Lesotho, Swaziland, Namibia, Botswana and Zimbabwe. Many of the illustrations – some reproduced for the first time – were made in the field. Images by Samuel Daniell in 1801, William Burchell in 1812, William Cornwallis Harris in 1842 and Thomas Baines between 1862 and 1868 show the characteristics of the various species. The specimens (hides, skeletons, skulls, horns) collected during the nineteenth century and preserved in European collections are listed and their status discussed.

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INTRODUCTION

At the end of the eighteenth century, scientists generally accepted that there was only one species of rhinoceros on the African continent, which differed from the Asian rhinoceros by the lack of incisors and the presence of two horns on the nose instead of one (Rookmaaker, 2004a, 2005a). It was known at the time that the rhinoceros inhabited the country near the Cape of Good Hope, where the animal had been shot and described by Anders Sparrman at Quammedacka in 1775 and by Robert Jacob Gordon on the Gamka River in 1778 (Rookmaaker, 1989: 284). At that time specimens were relatively rare in European collections and consisted mostly of horns without any supporting information (Rookmaaker, 1999a). Although actual data are absent, it is reasonable to assume that until the end of the eighteenth century the rhinoceros was relatively undisturbed and therefore common in suitable areas throughout southern Africa.

In the course of less than a century, in the period ending around 1875, rhinoceros had been encountered almost everywhere in appropriate habitats south of the Kunene and Zambezi rivers. As hunters, traders and farmers settled in regions increasingly distant from the coast, the animals were pushed back or became locally extinct (Guggisberg, 1966; Emslie & Brooks, 1999). During this time, the number of species recognised by those who travelled in the African interior increased dramatically. New species were described with reference to the size of the animals or the shape of the horns, including *Rhinoceros simus*, *R. keitloa*, *R. niger* and *R. oswellii*. In 1875, there would have been general agreement among knowledgeable people that there were at least four, and possibly as many as six, different species of rhinoceros in southern Africa. This large number of species was systematically untenable, however much the hunters believed in their existence. For some years there was a lively species debate, certainly abetted by the acceptance of a wide range of taxa by specialists in London and elsewhere in Europe. When this approach was taken to its extreme by Drummond, there was, at first, a disappointing silence but it was followed by a realisation that this proliferation of species was counter-productive and probably imaginary.

Taxonomic studies have since shown that the shape of the horns is an individual phenotypic variation rather than a genotypic characteristic that can be used to separate new species. Hence, we now recognise only two species of rhinoceros in Africa: the black or prehensile-lipped rhinoceros, *Diceros bicornis* (Linnaeus, 1758), and the white or square-lipped rhinoceros *Ceratotherium simum* (Burchell, 1817). The black rhinoceros has been divided into several geographic subspecies, but the actual number is still under review (Groves, 1967; Rookmaaker & Groves, 1978; Rookmaaker, 2005b). Because the rhinoceros populations in their original states are largely lost forever, their morphological variation, taxonomy, zoogeography, ecology and general biology can now only be known by studying the evidence collected when the animals still roamed widely across the continent. It is therefore the purpose of this monograph to record all the available contemporary sources about the black and white rhinoceroses in the interior regions of southern Africa. Attention has been paid to the history of all the specimens that were collected and preserved, to the descriptions and measurements of individual animals, to the localities where rhinoceroses were found, to depictions of the rhinoceros in its original habitat, and to other data which may assist in reconstructing the recent history of the rhinoceros in Africa.

The period from 1795 to 1875 was chosen for the present investigation, because of the many changes in distribution and

classification that occurred. Observations prior to 1795 (i.e., during the Dutch East India Company period at the Cape) were largely treated by Rookmaaker (1989) and were limited to the western and southern parts of South Africa. After 1875 most of southern Africa had been settled and rhinoceroses were seen infrequently. Although some of the historical sources on the African rhinoceros have been previously discussed (Rookmaaker, 1983), many travellers have not been placed within a context of zoological history as is done here, nor has particular attention been paid to the extensive iconography. Most data presented here were found in published books and periodicals, while manuscript journals have been consulted when they were accessible. An attempt was made to locate all drawings, engravings, paintings and other artwork showing the rhinoceros of southern Africa for the period under discussion. I have presented the rhinoceros records in chronological order, giving short accounts of the lives and travels of the observers, while the localities are listed in the tables and the artwork is largely illustrated in the figures. I have given references to appropriate literature in the hope of providing sufficient information to allow further study.

MATERIAL AND METHODS

As outlined above, the sources used here are bibliographical, iconographical (both published and unpublished), and the specimens previously or currently in museums or other collections. *Bibliographical sources* comprise published journals, diaries and notes written by travellers during expeditions, as well as books and some articles in periodicals resulting from their observations. Inevitably, only a small proportion of the people who encountered rhinoceroses or other wildlife in the course of the nineteenth century committed their experiences to paper and for this reason all types of documents are of value. I have examined all published works written by those whose first experiences of rhinoceroses in southern Africa date from between 1795 and 1875. I have referred to the first editions of books, noting subsequent editions only if there were additional facts or new plates of the rhinoceros. Where appropriate, I have mentioned the first English translation if one exists.

Iconographical sources are all depictions of the rhinoceros. Drawings, sketches, paintings and engravings are an important source of information and they are often overlooked by biologists. Pictures can convey information which may be difficult to put into words, and they provide a unique record of the morphology and size of the animals seen in Africa. When they were published, images helped readers to visualise animals which otherwise they would never have a chance to see. Most plates included in books about exploration in South Africa can be found in Kennedy (1975–1976) and the majority of drawings now in MuseumAfrica, Johannesburg, were listed and illustrated in monochrome by Kennedy (1966–1972). The original artworks used here are listed in the reference section according to their present depository. Rhinoceros *specimens*, whether skins, skeletons, skulls or smaller parts, preserved in a private or public collection are the most objective and potentially lasting kind of evidence. The specimens of the black and white rhinoceros which are known to have been obtained in southern Africa between 1795 and 1875 have been listed in Tables 44 and 45, with the addition of a few items obtained in the remainder of the century by people mentioned for the period of this paper. With the benefit of current knowledge and methods these specimens allow us to identify species or even subspecies with a great degree of accuracy and their continued preservation is therefore important. As the value of a specimen increases with the completeness of the accompanying data

(collector, date, locality, altitude, etc.), the history of each individual specimen has been traced in detail.

There are a number of additional sources which could help to complete the historical record of an animal species. The history of animals brought alive to zoos or circuses outside their range provides additional records of distribution. However, the first white rhinoceros arrived in a zoological garden as late as 1946, while the earliest recorded black rhinoceroses in captivity, kept in Antwerp from 1858, London from 1868 and Berlin from 1870, were obtained in northern Africa (Rookmaaker, 1998c). Evidence about the occurrence of a rhinoceros in a certain locality may also be obtained from a study of toponyms. Many of these place names were mentioned by Skead (1980, 1987), but because the history of these names is rarely traceable with certainty, they have not been mentioned here. When it was possible to trace changes in habitat in the course of the centuries, Skead also provided an ecological perspective on the historical evidence. Rhinos were affected by changes in the environment and by human interference and, when further detailed studies of particular areas are undertaken, this might provide answers as to why they disappeared. Finally, the rhinoceros appears on a number of rock paintings and engravings throughout southern Africa (Woodhouse, 1990). However, as it is unlikely that these were made in the period covered by this paper, I do not refer to them, nor have I used oral evidence, although it may in future add evidence of animals seen in a particular locality.

The most comprehensive accounts of the historical distribution of all mammals in South Africa were compiled by Cuthbert John (Jack) Skead (1912–2006), director of the Kaffrarian Museum 1950–1961 (Randles, 1984: 67) and Skead's work is invaluable for anyone working on this topic. The two volumes (recently updated, see Skead, 2007) provide detailed data for the Western Cape, Northern Cape (Skead, 1980) and Eastern Cape (Skead, 1987). Skead noted and discussed a wide range of records relating to the mammals of South Africa dating from the seventeenth to the nineteenth centuries and, in addition, Skead (1973) provided a comprehensive gazetteer of localities where mammals were recorded in southern Africa complete with synonyms and coordinates. Many older names of towns, rivers and mountains are all but irretrievable on modern maps, because villages moved, names changed and rivers disappeared.

All localities where rhinoceroses were encountered are listed in the tables and, in order to avoid repetition, these data are not usually repeated in the text. Places are given the names used in the original sources. However, when discussing the data, I have used current names, even though this some-

times creates historical impossibilities. For instance, Burchell discovered the white rhinoceros at Heuningvlei, which is said to be located near Kuruman, even though at that time Kuruman either did not exist or may have had another name, and it was not in the modern Northern Cape Province. The Tables 1–42 of rhinoceros sightings provide information on the date of each event, the locality with its coordinates, the type of event (see below), the species as mentioned in the source (*rhinoceros* being an unidentified species of rhinoceros, *bicornis*: a black rhinoceros, and *simum*: a white rhinoceros), and the reference.

The types of events are listed in the tables with the following abbreviations: C, rhinoceros captured; H, locality recorded by hearsay rather than from personal observation; K, Rhinoceros killed; P, rhinoceros shown in a rock painting/engraving; S, rhinoceros seen only; T, tracks of a rhinoceros observed; W, rhinoceros wounded but not killed. Each exact locality has a number like A1 which refers to a mark on one of the maps, in the example above, number 1 on Map A. Additionally, the symbols on the map show the type of rhinoceros encountered: B, black rhinoceros; R, rhinoceros of unidentified species; W, white rhinoceros; and Z, records for both black and white rhinoceroses.

TRAVELLERS' ACCOUNTS

The observations of rhinoceroses by travellers in southern Africa are listed chronologically. The line below the number and name of the account provides geographical locations and dates where and when rhinoceroses were seen, and refers to the tables and figures relevant to that particular section.

1. Barrow

Northern Cape, Eastern Cape, 1798. Table 1, Figure 1

John Barrow (1764–1848) arrived at the Cape of Good Hope in 1797 as private secretary to the Governor, George Macartney, First Earl Macartney (1737–1806) and returned to England in 1803 (Gunn & Codd, 1981: 90; Forbes, 1965: 132–146). He made three journeys during the first years of his stay: July 1797 to January 1798 to the Eastern Cape, April and May 1798 to the north, and 8 March to 8 June 1799 to the eastern frontier (Eastern Cape). *An Account of Travels into the Interior of Southern Africa* appeared in two volumes in 1801 and 1804, and second edition, much improved, followed in 1806. In the first volume, Barrow included a detailed map of the areas which he had traversed, which mentions the existence of the rhinoceros in two places. Barrow's *Voyage to Cochinchina*, also published in 1806, covered his travels in Asia prior to his time at the Cape but, incongru-

Table 1. Records of the rhinoceros relating to the travels of John Barrow (§1).

No.	Date	Locality	Coordinates	Type	Species	Source
B1	1798	Country of Bosjesmans, beyond Hantam Mountains	ca. 31°30'S 19°45'E	H	"white"	Barrow, 1801: 395 and map according to a chief at Khamiesberg
A2	1798–1799	Sitsikamma	33°58'S 24°00'E	S	rhino	Barrow, 1804, II: 368
A3	1798–1799	Zuureveld, near mouth of Great Fish River	33°30'S 26°57'E	S	rhino	Barrow, 1801, map
A1	1798 Dec 5	Tarkaberg Cave with paintings of rhino, giraffe and unicorn	31°50'S 26°05'E	P		Barrow, 1847: 189–191

Note: abbreviations used for the types of observations in this and subsequent tables: C, rhinoceros captured; H, locality recorded by hearsay rather than from personal observation; K, rhinoceros killed; P, rhinoceros shown in a rock engraving; S, rhinoceros seen only; T, tracks of a rhinoceros observed; W, rhinoceros wounded but not killed.



Figure 1. Samuel Daniell. Rhinoceros with horns of near-equal length: "The African Rhinoceros" (Barrow, 1806. *Travels into the Interior of Southern Africa*, second edition, volume 1, facing p. 348).

ously, it included an account of the African expedition by Truter and Somerville (§2).

Barrow (1801) mentioned the rhinoceros only in passing. When he visited Khamiesberg in 1798, he talked to a chief, who "in his younger days had been a great lover of the chase, and his matted hut within still displayed a variety of skins of animals that had fallen before his piece. He boasted that, in one excursion, he had killed seven camelopardalis and three white rhinoceroses." These rhinoceroses were said to be not uncommon on the skirts of the colony behind the Hantam Mountains, and appeared to be only a variety of the African two-horned rhinoceros. It differed from this creature in colour (being a pale carnation), in size (being considerably larger) and in the thinness of the skin; "all of which may perhaps be the effects of age" (Barrow, 1801: 395). It is highly likely that the observations of this chief were the source of the information found on Barrow's map of 1801. For the "Country of the Bosjesmans", a region east of Khamiesberg, south of the Orange River and beyond the formal colonial boundary of the time, this remark was inserted: "The white rhinoceros plentiful in this part of the country, also springboks, hartebeest, and eland." Skead (1987: 556) quoted from an thesis (du Plessis, 1969), which refers to a map compiled by Carmichael Smythe and printed by Aaron Arrowsmith (1750–1823) in London in 1805. I have been unable to trace this map, but the information on it is identical with that found on the map in Barrow (1801, 1806a). Barrow's use of the name "white" rhinoceros is certainly remarkable, because it implies that a kind of rhinoceros other than the one common around the southwestern Cape existed in the interior of the continent. Barrow's definition is, however, too loose to be of real assistance in deciding what his informants actually meant.

The locality is quite unusual for the white rhinoceros as known today, but we do not know how far the chief of Khamiesberg travelled in search of wildlife.

Barrow (1806b) was able to comment on the Truter-Somerville (§2) expedition to the Briquas (Griqua), having met some of its members and discussed what they had found. Barrow recorded that that expedition had encountered two species of rhinoceros and that they have been drawn by Samuel Daniell. Barrow (1806a, vol. 1: facing p. 348) included a plate of a black rhinoceros with near-equal horns, engraved by Thomas Medland (1755–1822) which was based on Daniell's work (Figure 1).

The State Library in Berlin has a manuscript description of the various regions that then constituted the colony of the Cape of Good Hope (*Generale Beschrijving van de Colonie de Kaap de Goede Hoop*, volume 1, pp. 56–57, copy in National Archives of South Africa, VC [Verbatim Copies] 104). Although it is unsigned and undated, it appears to have been written in 1798 or 1799. The presence of a special kind of rhinoceros is mentioned in the section about the Roggeveld, i.e., the region east of Hantamberg:

Wild is zeer schaars op de top dezer berg, ternauwernood ontmoet men er een wilde vogel of beest – men zegt egter dat dezelen zig in overvloed onthouden in de vlakten 10 oosten leggende, waar door verscheidene rivieren hunnen weg banen, naar de Groote of Orangerivier. Onder anderen is de Witte Rhinoceros overvloediglijk in, en waarschijnlijk eigenaardig aan, dit gedeelte van het land. Deze verschilt in niets van de gemeene tweehoornige afrikaansche Rhinoceros, als alleen in groote, waar in het dezelve aanmerkelijk overtreft en in de dunheid en buigzaamheid

Table 2. Records of the rhinoceros during the expedition of Truter and Somerville in 1801 (§2).

No.	Date	Locality	Coordinates	Type	Species	Source
B3	1801 Oct 31	Jonkers Fountain	30°05'S 22°34'E	T	rhino	Somerville, 1979: 73; Borchers, 1861: 63
B2	1801 Nov 17	Eende Fountain Makatzanie Fountain	28°07'S 23°11'E	T	rhino (horn found)	Borchers, 1802: 229, 1861: 74
B2	1801 Nov 18 1801 Nov 19	Magaaga Mountains Yzerberg Mountains	28°07'S 23°11'E	T	rhino	Somerville, 1979: 105, 106
B2	1801 Dec 27	Kossy Koussie Fountain	27°54'S 23°14'E	K	bicornis	Somerville, 1979: 162; Barrow, 1806: 420; Borchers, 1802: 219, 1861: 90; Truter & Somerville, 1802: 393
B2	1801 Dec 30	Yzerberg Mountains	28°07'S 22°50'E	K	bicornis	Borchers, 1802: 219; Truter & Somerville, 1802: 394
B4	1802 Apr 4	Skeet Fountain	30°57'S 22°06'E	K	rhino	Somerville, 1979: 190

van het vel. Elands, springbokken, quachas, hartebeesten zijn menigvuldig in deeze velden te vinden.

The author thus notes the absence of wildlife from the mountains in the Roggeveld, but has heard that many animals and birds are found in the plains to the east. There, he says, the “white rhinoceros” is found in abundance, and it only differs from the common African rhinoceros in its much larger size and the thinness and pliability of the skin (Skead, 1987: 554). This paragraph seems very similar both in wording and structure to Barrow’s (1801) own remarks about the “white” rhinoceros and Barrow may have borrowed from this, although it is more probable that the manuscript included information gathered during Barrow’s travels of 1798. But whatever the case, it does not help in deciding what this “white” rhinoceros would actually look like.

2. Truter and Somerville

Northern Cape, 1801–1802. Tables 2–3, Figures 2–16

In 1801, there was a shortage of food supplies at the Cape of Good Hope, caused by a combination of crop destruction by locusts, poor harvests for three consecutive years, and insecurity in the Eastern Cape region. In order to negotiate possibilities of barter with Molehanangwe, the chief of the Briqua or Beriqua people (now Griqua), living near Latakoo (the Tlhaping settlement at Dithakong, north of the present Kuruman), an expedition was despatched to the country beyond the upper reaches of the Orange River. Petrus Johannes Truter (1775–1867) was appointed as Chief Commissioner and



Figure 2. Samuel Daniell. Rhinoceros called “Kininianah”, drawn in 1801–1802 (MuseumAfrica, 65/4036).

William Somerville (1771–1860) as Second Commissioner, and they were accompanied by Samuel Daniell (1775–1811) as Secretary and Petrus Borchers (1786–1871) as Second Secretary (Bradlow, 1979). No account of the journey was made public at the time, although there is an English summary in Barrow’s *Voyage to Cochinchina* (1806b). There were several

Table 3. Measurements of rhinoceroses shot during the Truter–Somerville Expedition (§2).

Length from head to tail	Height at shoulder	Source
Black rhinoceros – Male shot at Kossy on 27 December 1801		
10' 7" – 322 cm	–	Borchers, 1861
10' 6" – 320 cm	–	Somerville, 1979
10' 7" – 322 cm	–	Truter & Somerville, 1979
10' 7" – 322 cm	5' 6" – 168 cm	Barrow, 1806
10' 0" – 304 cm	5' 7" – 170 cm	Daniell, Sketch 65/4039
Black rhinoceros – Female shot at Yzerberg on 30 December 1801		
7' 0" – 213 cm	5' 0"–152 cm	Borchers, 1802
7' 10"–239 cm	5' 10"–178 cm	Borchers, 1861

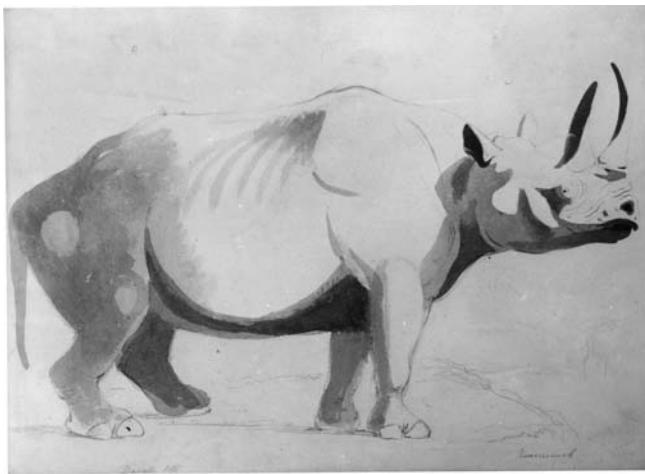


Figure 3. Samuel Daniell. Black rhinoceros (MuseumAfrica, 65/4037).

versions of the findings of the expedition, listed by Edna and Frank Barlow (Somerville, 1979): the *Official Account* attributed to Truter and Somerville, presented to the government in 1802, and printed by Theal in 1899 (Truter & Somerville, 1802); a manuscript account by Somerville, preserved in the Bodleian Library, Oxford; a manuscript journal by Borchers in the Library of Parliament, Cape Town; a letter by Borchers to his father, the Reverend Meent Borchers (1762–1832) in Stellenbosch, which is undated but probably written soon after the expedition's return in 1802, also in the Library of Parliament, Cape Town (Borchers, 1802); Borchers' *Auto-biographical Memoir* (1861); and all of these have been complemented by the artwork of Samuel Daniell.

Rhinos or their footprints were encountered in only four locations. Three of these animals were shot and were said to belong to two different species. Apparently no skulls or hides were preserved (Rookmaaker, 1998a). On Sunday 27 December 1801, when the expedition was returning to the Cape after visiting the "Briquas", a rhinoceros was shot at Kossy or Koussie Fountain by Jacob Kruger who, with his brother Carel, had joined the expedition in November 1801 at Prieska Drift on the Orange River. Jacob was a forger who had escaped from incarceration on Robben Island and both brothers were later pardoned because of their assistance to this expedition (Somerville, 1979: 71n). When the members of the expedition



Figure 4. Samuel Daniell. Black rhinoceros (MuseumAfrica, 65/4038).

went to the place where this first rhinoceros lay, they found a large male, measuring 10 feet 7 inches (322 cm) in length (Table 2). According to the local Bechuanas (Tswana), the animal belonged to a kind called *Seikloa* (Truter & Somerville, 1802), *Sekloa* (Borchers, 1802) or *Jeckloa* (Barrow, 1806b). Borchers also called it a black two-horned rhinoceros. Somerville (1979: 182) commented that the second horn rose immediately behind the margin of the front horn, was equally thick, but not half the length of the other. The horns in fact measured 40 cm and 25 cm respectively (Somerville, 1979; Borchers, 1861). Barrow (1806b: 420) had another opinion about the "peculiarity of the horns", saying that they "were pretty nearly of the same length, whereas in the common rhinoceros of southern Africa the upper [posterior] horn is a mere stump of about 6 inches in length." Surely, this must be the first rumour of the *keitloa* later described by Andrew Smith (§18).

Just a few days later, Jacob Kruger and Jan Meintjes van den Berg shot a second rhinoceros at Yzerberg Fountain. The date is recorded variously as Wednesday 30 December 1801 (Truter & Somerville, 1802), 26 December 1801 (Barrow, 1806b), or 31 January 1802 (Borchers, 1802). From a comparison of the sources, the date given by Truter & Somerville, 30 December, was probably closest to the truth. The measurements of the animal are equally unclear from the written sources. (In fact, this incident is omitted from Somerville's account, published in

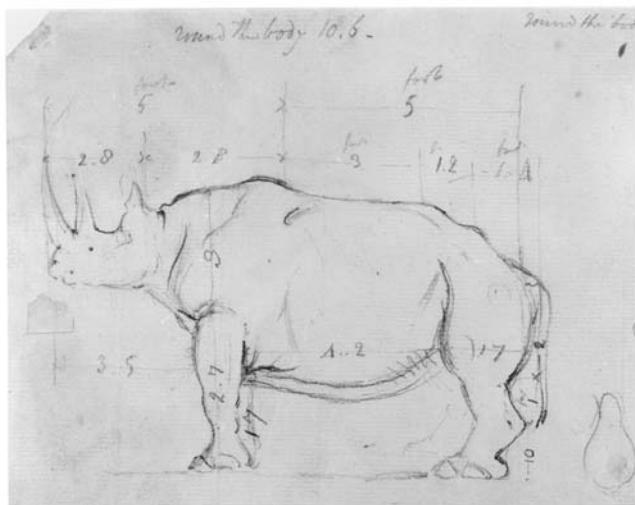


Figure 5. Samuel Daniell. Sketch of black rhinoceros, with measurements (MuseumAfrica, 65/4039).

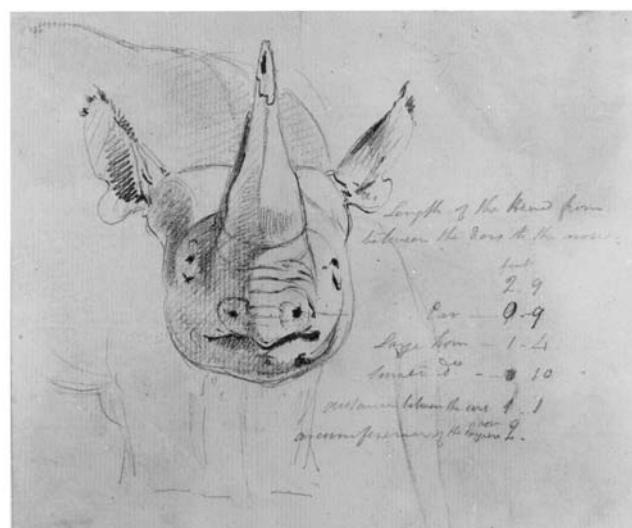


Figure 6. Samuel Daniell. Head of black rhinoceros (MuseumAfrica, 65/4040).

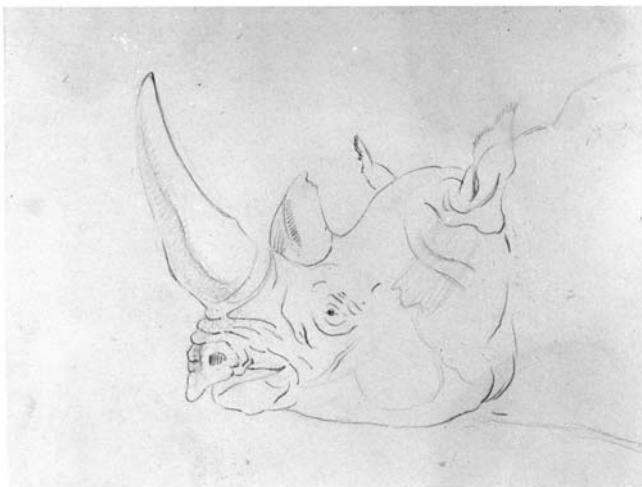


Figure 7. Samuel Daniell. Head of black rhinoceros (MuseumAfrica, 65/4041).

1979.) Truter & Somerville (1802) mention the shooting but give no measurements. Only Borcherds records them, both in the 1802 letter to his father and in his 1862 memoir, but the text of the former seems to include a number of irregularities. According to Borcherds (1861), it was a female, 7 feet 10 inches (238 cm) in length (Table 3). The Tswana said that it differed from the previous animal and they called it *Magooe* (Truter & Somerville, 1802), *Magveoe* (Borcherds, 1802, 1861) or *Mogoué* (Barrow, 1806b). Apparently, when Kruger reported the incident to the leaders of the expedition, he differentiated it as a "white" rhinoceros, as Borcherds (1802) expressed his surprise about the colour in a letter to his father: "I expected this animal to be entirely white according to its name, but I found that she was paler ash-grey than the black, and will appear lighter at a distance, and put the derivation of its name down to that." Truter & Somerville (1802) stated that the upper lip of this animal was flatter, the horns much finer and more bent hindwards, and the body in general smaller than the first rhinoceros. Judging from the description of the animal as "white" and the flat upper lip, it is possible that it might have been a white rhinoceros. However, the size of the animal is inconclusive, as it should have been much larger – unless, of course, it was not fully grown. The drawings, which Daniell made in the field, might help to settle the question.

Samuel Daniell came from a family of professional artists. He was the nephew of Thomas Daniell (1749–1840) and the

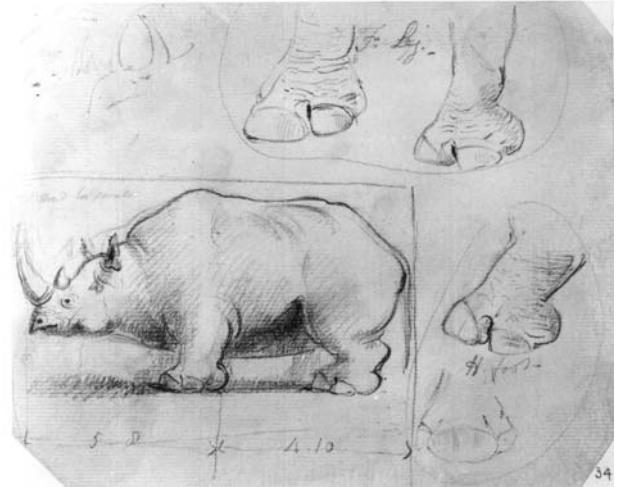


Figure 8. Samuel Daniell. Lateral view of black rhinoceros and four sketches of feet (MuseumAfrica, 65/4042).

younger brother of William Daniell (1769–1837). Thomas and William travelled on the Indian subcontinent between 1785 and 1794, where on 20 April 1789 they encountered and drew an Indian rhinoceros (*Rhinoceros unicornis*) in Kotdwara, a place north of Delhi in the foothills of the Himalayas (Rookmaaker, 1999b). Samuel, however, never visited India and he was the only one of the three brothers to reside in South Africa, which he did from December 1800 to 1803. In his sketchbook (MuseumAfrica, 65/4036 to 65/4047) there are 11 drawings of rhinoceros, all made during the Truter and Somerville expedition detailed above (Figures 2–12). Five drawings show the animal in lateral or front view, four the head, and two are studies of the legs. Another drawing of two lower jaws attributed to the rhinoceros by Kennedy (1967: D56) probably depicts parts of a hippopotamus.

Daniell recorded several measurements of the head on one of his drawings (no. 65/4040, Figure 6), including the lengths of the two horns, 1 foot 4 inches (40.6 cm) and 10 inches (25.4 cm) respectively. These correspond with lengths recorded by the other members of the expedition when examining the male rhinoceros shot on 27 December 1801 at Kossy (Table 3). For that reason, all the drawings showing an animal in which the posterior horn is just a little shorter than the anterior one probably depict this first specimen (Figures 2–6). Two of the other drawings (Figures 7–8) show a rhinoceros with a long anterior horn and a much shorter posterior horn. If these sketches represent



Figure 9. Samuel Daniell. Hind foot of black rhinoceros (MuseumAfrica, 65/4043).

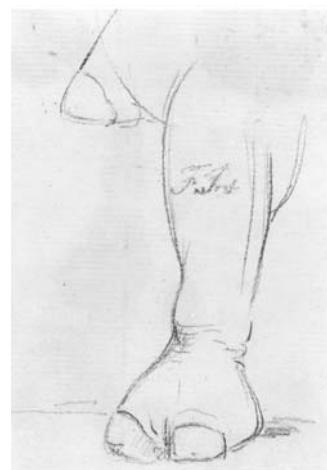


Figure 10. Samuel Daniell. Forefoot of black rhinoceros (MuseumAfrica, 65/4044).



Figure 11. Samuel Daniell. Black rhinoceros head and feet (MuseumAfrica, 65/4046).

the second rhinoceros, shot on 30 December 1801 at Yzerberg Fountain, it might reveal the species to which it belonged and help us to understand the use of "white" in its description. Both these drawings clearly show the prehensile upper lip, which is characteristic of the black rhinoceros. If this interpretation is correct, the name "white" rhinoceros was used for some kind of variety of the species which we now call black rhinoceros and not for the animal with the square upper lip.

Samuel Daniell later combined his field sketches of the rhinoceros to produce a coloured aquatint of the black rhinoceros. This plate was first published in his *African Scenery and Animals*, dated 15 November 1805, followed by a short description (Figure 13). Daniell declared the animal to be not at all vicious and to be commonly found in the thickets on the eastern frontiers of the colony. Exactly the same engraving is found in colour in the second edition of Barrow's *Travels into the Interior*



Figure 12. Samuel Daniell. Black rhinoceros (MuseumAfrica, 65/4047).

of *Southern Africa* (1806a; Figure 1). The image was copied in various other books of the period, sometimes with a different background, for instance in Jardine (1836, pl. 12) stated to be drawn by James Stewart (1791–1863) and engraved by William Home Lizars (1788–1859) (Figure 14) and in Maukisch (1841, VI, part 2; see Kennedy, 1976: M109). Two further engravings of the rhinoceros from the hand of Samuel Daniell are found in books compiled by William Daniell. The first appeared in the *Interesting Selections from Animated Nature* (Daniell, 1807, pl. 7) and shows a black rhinoceros with horns of obviously different length (Figure 15). The second called "On the Orange River" shows two small rhinoceroses in magnificent scenery (Daniell & Daniell, 1820, pl. 14; see Figure 16).

The Bechuana men convinced the expedition that there were three types of rhinoceros, although their characteristics remained undefined and the visitors were both confused and



Figure 13. The African rhinoceros by Samuel Daniell (Daniell, S. 1805. *African Scenery and Animals*, plate 30).



Figure 14. Black rhinoceros, after Samuel Daniell (Jardine, 1836. *The Naturalist's Library, Pachydermes*, plate 12).

uncertain. They encountered two species called *Seikloa* and *Magooe*. The third was not seen by the Truter-Somerville expedition, but according to Borcherds (1802, 1861), the Bechuana called it *Kemen jana* and alleged that it was smaller, more irritable by nature, and lived in the hills. But most of Daniell's sketches show a rhinoceros with horns of nearly equal length (the male rhinoceros shot at Kossy) and Barrow (1806b: 420) believed that this particular rhinoceros, called *Jeckloa* by the Bechuana, belonged to a new kind, being of extraordinary size (and he records the length and height of the Kossy specimen), with horns "nearly of the same length." He almost certainly based his remarks on the drawings made by Daniell rather than on any of the written descriptions. His interpretation was

echoed by Samuel Daniell (1805): "The individual from which the annexed print was taken, is supposed to be a new species, or at least a variety of the species usually met with in South Africa, being of greater bulk and having the upper horn at least three times the size of what it generally is."

The second rhinoceros, killed at Yzerberg Fountain, was called "white" by the hunters who reported its killing, and perhaps this is an interpretation of the Bechuana name *Magooe*. Alternatively, if the hunters returned to camp with the news that a "different" kind of rhinoceros had been shot, Truter or Somerville might have suggested that this was the unknown "white" rhinoceros of which Barrow had heard rumours when he visited the Northern Cape (§1). None of the animals in the

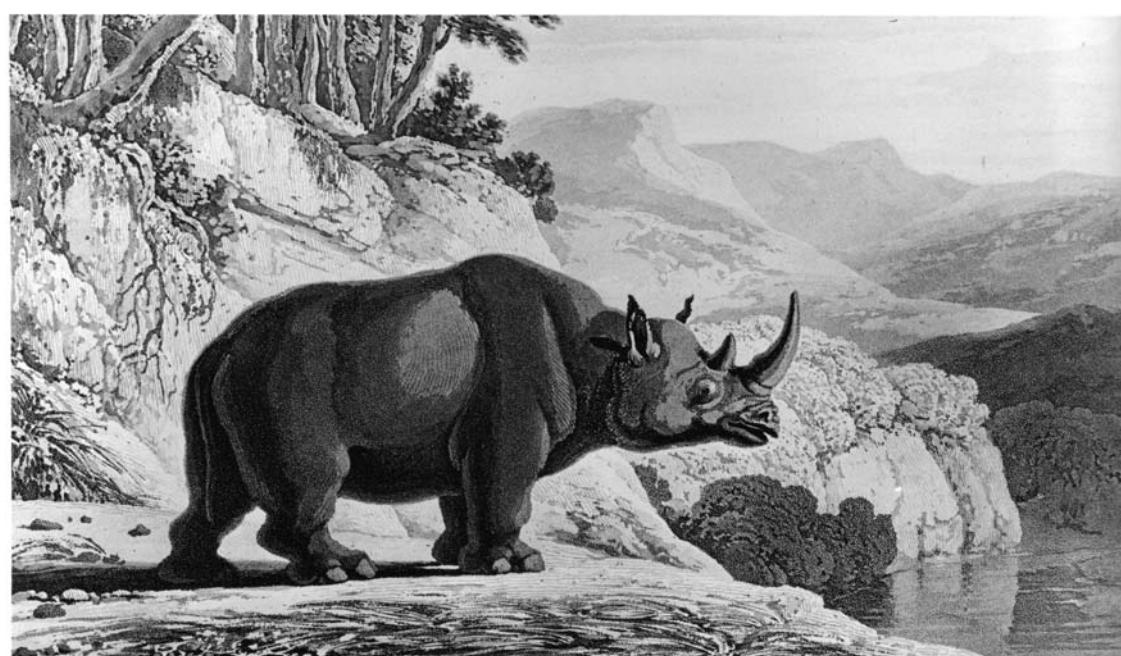


Figure 15. "Two Horned Rhinoceros. Designed & engraved by Willm Daniell" after Samuel Daniell (Daniell, 1807. *Interesting Selections from Animated Nature*, vol. 2, seventh plate).

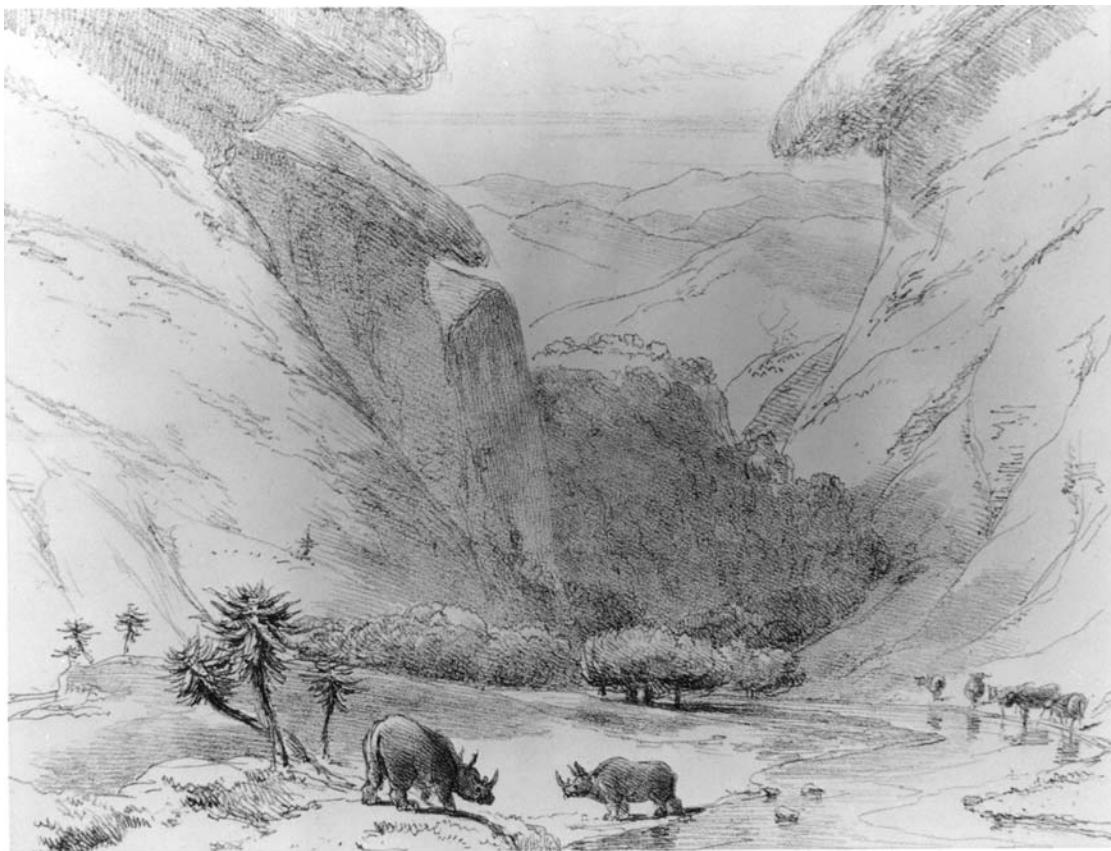


Figure 16. “On the Orange River” published by William Daniell after sketches by Samuel Daniell (Daniell & Daniell, 1820. *Sketches Representing the Native Tribes, Animals, and Scenery of Southern Africa*, plate 14).

drawings by Daniell can be identified as a white rhinoceros with the flat upper lip. Two of Daniell's sketches (Figures 7–8) almost certainly represented the animal called “white” at the time, but both of these are obviously representations of a black rhinoceros. But even if the expedition members did actually see a white rhinoceros, they cannot have appreciated that it was indeed different from the more commonly known black rhinoceros, because their examination of the second specimen was simply too cursory for people who were aware of the fact that they had just made a major discovery.

3. Paravicini di Capelli

Eastern Cape, 1803. Table 7

Willem Bartholome Eduard Paravicini di Capelli (1778–1848) arrived in Cape Town on 23 December 1802 as aide-de-camp to the Governor, Jan Willem Janssens (1762–1838), for the Cape had changed hands from Britain to the Batavian Republic in 1802. From 2 April to 13 August 1803, Paravicini accompanied Janssens on the Governor's tour of his new colony from Cape Town eastward to the vicinity of George. The official journal does not include a reference to the rhinoceros (Molsbergen, 1932: 100–209), but Paravicini kept a private diary in which he records one “rhenosseros”. Paravicini went briefly to St. Helena Bay in May 1804 before returning to Holland in April 1805 (Paravicini, 1965; Rookmaaker, 1991).

4. Lichtenstein

Eastern Cape, Northern Cape, 1803–1804. Table 4

Martin Heinrich Carl Lichtenstein (1780–1857) arrived at the Cape on 23 December 1802 in the entourage of J.W. Janssens (§3), as family doctor and tutor of his son. His *Reisen im südlichen*

Africa in den Jahren 1803, 1804, 1805 und 1806 (two volumes dated 1811 and 1812), translated into English by Anne Plumptre (1760–1818) in 1812 and 1815 (reprinted as Lichtenstein, 1928–1930) record his part in three extensive expeditions into the South African interior. When he returned to Germany in 1806 (when Britain again took over the Cape) he occupied the chair of zoology at the University of Berlin, first as lecturer, later as professor. In 1813 he became Director of the Zoological Museum in Berlin and in 1844 the first Director of the Zoological Gardens in the German capital (Klös, 1968: 25–53; Gunn & Codd, 1981: 22; Mauersberger, 1994).

Lichtenstein took part in an official expedition through the colony by the Commissioner General, Jacob Abraham Uyttenhage de Mist (1749–1823). A summary of the journal kept from 9 October 1803 to 23 March 1804 made no reference to any rhinoceros (Molsbergen, 1916: 167–189, 1932: 216–250). In his later book, however, Lichtenstein (1811) recorded that the animal was known in the Eastern Cape, where he saw footprints and once even spotted the animal, which was called *Unkhoma* by the Koossas and *K'homba* by the Bechuana. We may assume that the animals were black rhinoceroses, but there are no details in his work to substantiate this.

De Mist was one of the directors of the “Hollandsche Maatschappij der Wetenschappen” (Dutch Society of Sciences), established in Haarlem in 1752. In 1803, when he was in Cape Town, he sent a box of minerals and natural history specimens to the Society in Haarlem. The gift was only acknowledged in print in 1812, when the report listed “the horns of several species of antelopes and those of a rhinoceros” (Van Marum, 1812). The Society's Museum, begun in 1759, had a large collection of zoological specimens and was open to the public (Sliggers, 2002). In the first catalogue of the collection, Martinus van Marum (1750–1837), director of the Cabinet of Natural

Table 4. Records of the rhinoceros relating to the travels of Heinrich Lichtenstein (§4).

No.	Date	Locality	Coordinates	Type	Species	Source
B5	1803 Oct	Hartebeestfontein	30°34'S 19°48'E	H	rhino	Lichtenstein, 1811, I: 154, 1812b: 98
A3	1803	Great Fish River	33°30'S 26°55'E	H	rhino	Lichtenstein, 1811, I: 585, 1812b: 353
A8	1804 Jan	Hermannuskraal	33°07'S 26°37'E	T	rhino	Lichtenstein, 1811, I: 583, 1812b: 351
A7	1804 Jan	Camdeboo	32°30'S 24°00'E	H	rhino	<i>idem</i>
A6	1804 Jan	Agterbruintjeshoogte	32°40'S 25°45'E	H	rhino	<i>idem</i>
A5	1804 Jan 15	Koega River	33°37'S 25°42'E	T	rhino	Lichtenstein, 1811, I: 563, 1812b: 339
A4	1804 Jan 19	Dirkskraal	33°08'S 26°04'E	T	rhino	Lichtenstein, 1811, I: 571, 1812b: 344
A6	1804 Feb 12	Modderfontein	32°47'S 25°46'E	S	rhino	Lichtenstein, 1811, I: 590, 1812b: 355
B4	1804 June	Schietfontein	30°57'S 22°06'E	S	rhino	Lichtenstein, 1812a, II: 342, 1815: 210
B4	1804 July	Karre Mountains	<i>idem</i>	S	rhino	Lichtenstein, 1812a, II: 558

History from 1777, recorded the presence of "the horns of *Rhinoceros bicornis*," without provenance (Van Marum, 1803: xi). It is possible that this pair of horns was part of De Mist's donation of 1803 but, considering the dates, it is more likely that the horns were unrelated to De Mist's journey with Lichtenstein.

Van Marum's successors as museum curators during the nineteenth century – Jacob Gijsbertus Samuel van Breda (secretary 1838–1864) and Eduard Henri von Baumhauer (secretary 1864–1885) – had little interest in the zoological part of the collection. Indeed, the museum closed in 1866 and its contents were sold or given away (Bierens de Haan, 1941). While the majority of invertebrate specimens went to the Museum of the Royal Zoological Society at Amsterdam, no mammals or birds were mentioned in the papers relating to that transaction (Smit, 1986: 108) and the fate of the rhinoceros horns has not been traced.

5. Schmelen

Namibia, 1811. Table 5

A missionary with the London Missionary Society, Johann

Heinrich Schmelen (1777–1848) was stationed in various parts of Namibia from 1811 onwards (Gunn & Codd, 1981: 316). Doubtless he saw numerous rhinoceroses during his stay as did many of his colleagues who braved the African hinterland at that time, but it is to be regretted that so few of their records survive. However, two instances in which Schmelen's party shot a rhinoceros in southern Namibia have been retrieved. What was probably a black rhinoceros was shot on 12 June 1814 on the Koon River, just north of Bethanien, and it measured 12 feet (365 cm) in length and 10 feet 10 inches (330 cm) in circumference (Schmelen, 1818).

6. Burchell

Northern Cape, North West, 1812. Table 6, Figures 17–30

In November 1810, William John Burchell (1781–1863), son of a wealthy nurseryman, arrived in Cape Town intending to collect botanical and zoological specimens (Poulton, 1907; Le Roux, 1939: 18; Schapera, 1953; Gunn & Codd, 1981: 109; Cleverly, 1989). He spent almost four years in the South African interior, from 19 June 1811 to the middle of April 1815. From 30 September 1811 he set up camp in Klaarwater (Griquatown)

Table 5. Records of the rhinoceros relating to the travels of Johan H. Schmelen (§5).

No.	Date	Locality	Coordinates	Type	Species	Source
E2	1814 June 12	Koon River	26°25'S 17°07'E	K	rhino	Schmelen, 1818: 322 (Moritz, 1999: 111)
E1	1814 June 26	Harragaap River	? 25°51'S 17°47'E	K	rhino	Schmelen, 1818: 325 (Moritz, 1999: 114)

Table 6. Records of the rhinoceros relating to the travels of William J. Burchell (§6).

No.	Date	Locality	Coordinates	Type	Species	Source
B6	1812 Mar 7	Kaabi's Kraal	30°10'S 23°40'E	K	bicornis	Burchell, 1824: 75
C1	1812 Oct 16	Chué Spring	26°18'S 23°10'E	K	simum	Burchell, 1817b
C1	1812 Oct 19	Hot Station	26°27'S 23°05'E	K	bicornis	AM 68/1464 pp. 70, 72, 73; AM 68/1843
C1	1812 Oct 28	Hot Station	26°27'S 23°05'E	K	bicornis	Burchell, 1825
C1	1812 Nov 5	Hot Station	26°27'S 23°05'E	K	simum	AM 68/1952 p. 20

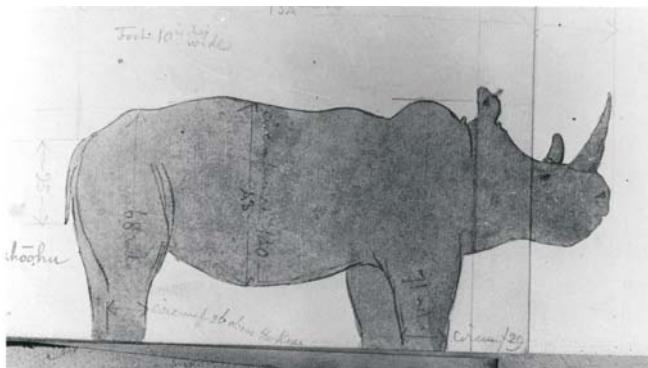


Figure 17. William Burchell. White rhinoceros with measurements, 1812 (MuseumAfrica, Sketchbook 68/1464, p. 68).

and explored the surrounding country and also made two longer excursions, the first to Graaff-Reinet to see the Landdrost (24 February 1812 to 24 May 1812) and the second to the country of the Bechuanas (6 June 1812 to 4 January 1813). Burchell took over a year to return to Cape Town, travelling via Graaff-Reinet (May 1813) and Grahamstown (August 1813) to the mouth of the Great Fish River (September 1813) and then westwards along the coastal route. He sailed back to England on 25 August 1815 and arrived at his father's home in Fulham on 11 November 1815 (McKay, 1941, 1943). There he began to edit his journal and to catalogue his extensive botanical and zoological collections. The first volume of his *Travels in the Interior of Southern Africa* appeared only seven years later, in 1822, and the second followed at the end of 1823 (incorrectly dated 1824 on the title-page). For unknown reasons, the narrative remained incomplete, and the second volume ends rather abruptly with the events of 3 August 1812. The only known manuscript journal by Burchell covers the period 24 May 1812 to 2 September 1812 (Hope Library, Oxford University Museum of Natural History; see Poulton, 1907).

Burchell saw rhinoceroses only on his expedition to the country of the Bechuanas. When he reached Kaabi's Kraal (near De Aar) on 7 March 1812, he was told that Speelman, his Khoisan companion, had killed one (Burchell, 1824a: 75; 1824b). Hence, Burchell set out in the late afternoon, and after having ridden some 14 miles in a southerly direction, he met Speelman at the carcass of the dead animal. Speelman excitedly told him that the members of his party had sighted no less than four rhinoceroses, which were feeding quietly on some bushes. They had all advanced towards the animals, but Speelman was the first to come within shooting range and he wounded one mortally.

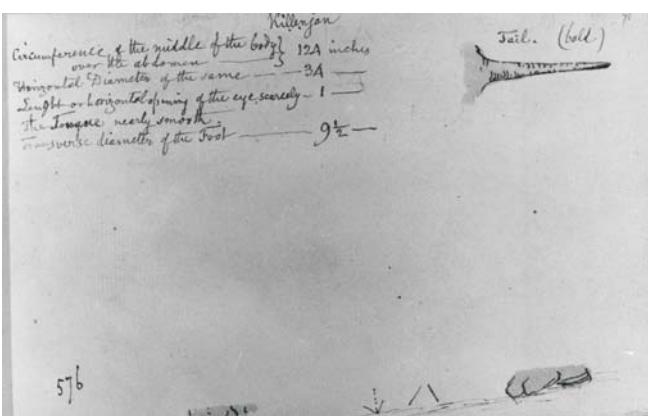


Figure 19. William Burchell. Black rhinoceros: "Killenjan. 576" drawn in 1812 (MuseumAfrica, Sketchbook 68/1464, p. 71).

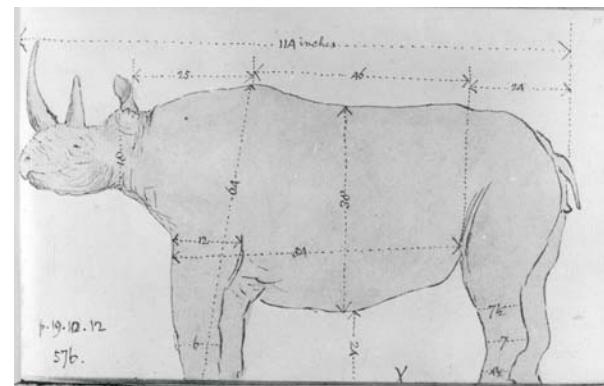


Figure 18. William Burchell. Lateral view of black rhinoceros, 1812 (MuseumAfrica, Sketchbook 68/1464, p. 70).

Others fired at the same animal "until it had received seven balls; when it fell dead." They then followed the other three rhinoceroses, and saw one in the middle of an open plain, which too was killed, again with a single bullet. Burchell examined the first rhinoceros, a male of large size, but some San Bushmen had reached it before he did and the animal was nearly cut up on his arrival, to the extent that he was unable to ascertain its dimensions. The following morning (8 March 1812) Burchell crossed some rocky hills to the west and descended into a dry and extensive plain thinly covered with low bushes, where the second rhinoceros lay. He immediately

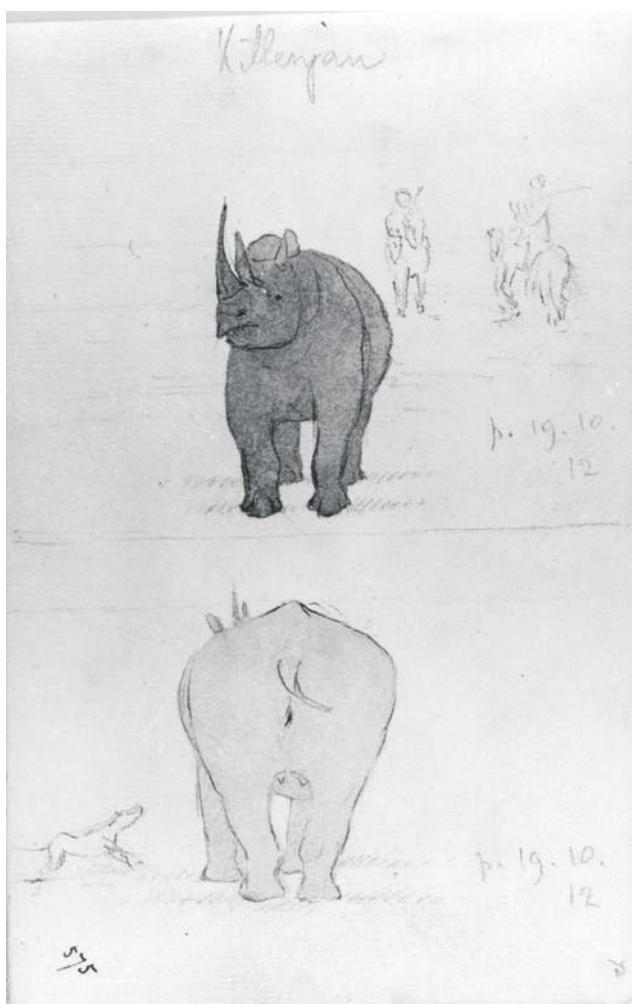


Figure 20. William Burchell. Black rhinoceros, 1812 (MuseumAfrica, Sketchbook 68/1464, p. 72).

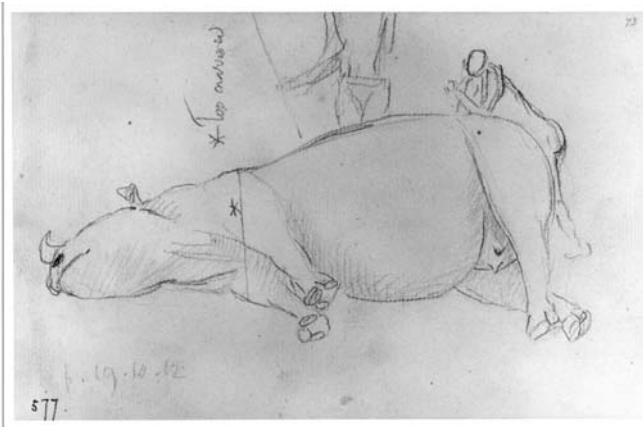


Figure 21. William Burchell. Black rhinoceros, 1812 (MuseumAfrica, Sketchbook 68/1464, p. 73).

made some drawings, "both in front and in profile, and a separate sketch of its head on a larger scale." Only one of these field drawings is still known to exist (MuseumAfrica 68/1818; Figure 25), but Burchell (1824a: 46, 79) inserted two vignettes depicting this animal in the second volume of his *Travels* (Figs 29–30). He also recorded a few dimensions, including its total length of 11 feet 2 inches (340 cm), but omitted to mention whether it was male or female.

The rhinoceros is not recorded elsewhere in the *Travels*, because the chronological narrative stops before Burchell reached the most northern point of his expedition to the Bechuanas in October 1812, at Chué Springs or Heuningvlei. However, from his field-sketches preserved in sketchbooks or as loose drawings in MuseumAfrica, Johannesburg, it is clear that Burchell encountered rhinoceroses in this area (Cave,



Figure 22. William Burchell. Black rhinoceros: "Killenjan. 578" drawn in 1812 (MuseumAfrica, Sketchbook 68/1464, p. 75).

1947; Kennedy, 1971) and eleven drawings of rhinoceros are attributed to him (Figures 17–27). Seven of these depict a female black rhinoceros drawn on 19 and 20 October 1812 (Figures 18–22, 25–26); three drawings show the white rhinoceros in the same area (Figures 17, 23, 27), while the last shows the feet of an unidentified species (Figure 24). But Burchell also found other rhinoceroses in the same region, and when he donated some of his specimens to the British Museum in 1817, he included a young black rhinoceros, which had been killed together with its mother on 28 October 1812 at the Hot Station on the Moshowa River (Burchell, 1825: 4).

It is unfortunate for later researchers that Burchell left no written record of the excitement he may have experienced when first he realised that there were two distinct species of rhinoceros at Chué Springs, i.e., the black rhinoceros known

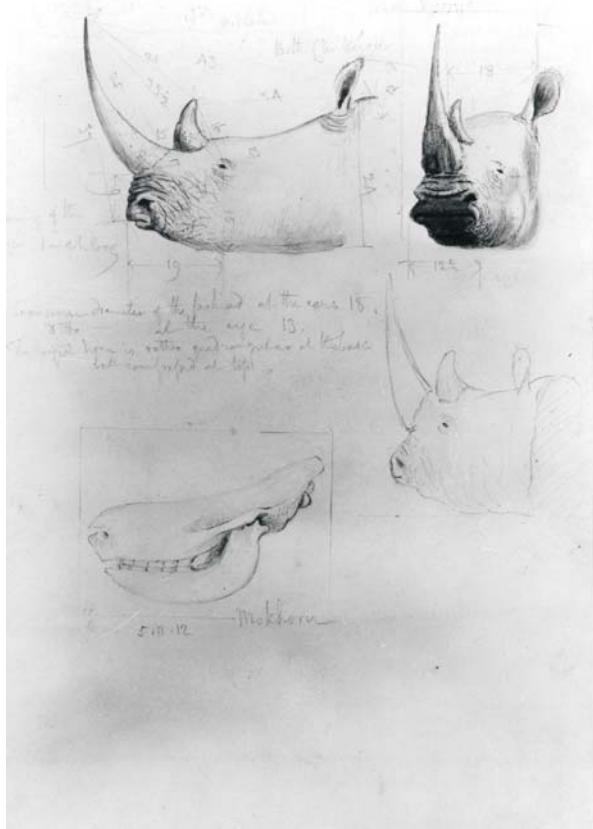


Figure 23. William Burchell. White rhinoceros: "Mokhoru. 573" drawn in 1812 (MuseumAfrica, Sketchbook 68/1952, p. 20).

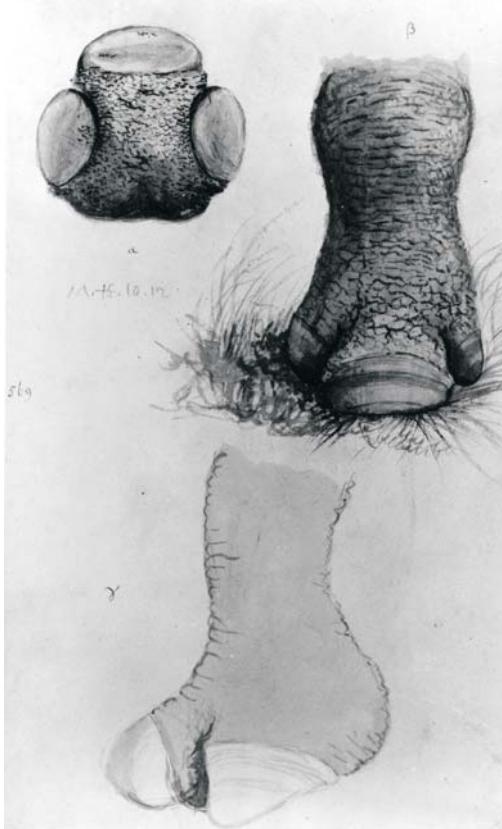


Figure 24. William Burchell. Rhinoceros feet, 1812 (MuseumAfrica, Sketchbook 68/1468, p. 21).



Figure 25. William Burchell. Front view of black rhinoceros, 1812 (MuseumAfrica, 68/1818).

earlier, as well as an animal with a wide upper lip, now called the white rhinoceros. We may even wonder when it was that Burchell reached this conclusion, as only three of the eleven existing rhinoceros drawings show the white rhinoceros, which until then was unknown and even unsuspected. It seems strange to us today that Burchell did not spend more time drawing and measuring the new species and that he was not particularly anxious to bring a specimen home to England with him. A skull features in one of the drawings (Figure 23), but this disappeared from the records and it is probable that it was never removed from the field. The evidence on the drawings shows that one white rhinoceros was shot either on 16 or 17 October 1812 in the immediate vicinity of his camp at Chué Springs. It is quite likely that another was killed at the same time, because he brought two pairs of horns back with him to England. The teeth obtained during the journey have also been attributed to two specimens. The Bechuana differentiated between two species of rhinoceros, the *Killenjan* (sometimes spelt *Killenyan*) i.e., the common black rhinoceros, and the *Mokhohu* (also spelt *Mokohu*, *Mokhoru*, and *Mokhoohu*) i.e., the species now known as the white rhinoceros.

Burchell was not merely a curious collector, but keen to

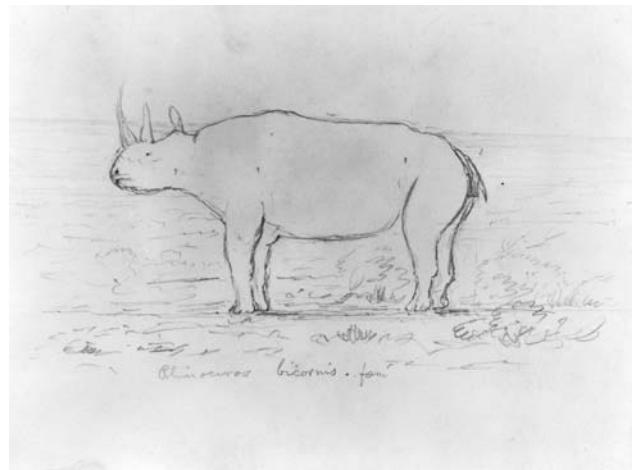


Figure 26. William Burchell. Female *Rhinoceros bicornis*, 1812 (MuseumAfrica, 68/1843).

expand biological knowledge. He noted in the introduction to his *Travels* (1822: viii) that in the five years he had spent in the South African interior, he had gathered around 63 000 specimens from every department of science, and it is interesting to record that of the 289 quadrupeds he shot on his journey, 120 skins from 65 species were preserved. Besides the white rhinoceros, Burchell discovered the tsessebe, *Damaliscus lunatus* (Burchell, 1823), the black-footed cat, *Felis nigripes* (Burchell, 1824), the blue wildebeest, *Connochaetes taurinus* (Burchell, 1823) and he distinguished the plains zebra, *Equus quagga* (Gray, 1824) (Pickering, 1997: 311).

There is some confusion about the number and identity of the rhinoceroses killed during Burchell's journey. Burchell (1822: viii) mentioned nine, "besides a smaller one" – i.e., t10, all of which, according to him (Burchell 1824a: 75), belonged to "the present species", i.e., of *Diceros bicornis* only. But in Burchell's description of *Rhinoceros simus* (1817), he claimed to have shot 10 specimens of rhinoceros, inferring that this number combined both species. Cave (1947) followed the latter interpretation stating that "Burchell's men killed (for food) a total of 10 rhinoceroses, the majority being of the Common or Black species." Cave then lists five specimens of the black rhinoceros and one specimen of the white rhinoceros which he could trace: (1) a white rhinoceros killed on 16 October 1812 near Chué Springs; (2-3) two black rhinoceros killed near Kaabi's Kraal; (4) a female black killed on 19 October 1812 near Chué Springs; (5-6) a female and calf also killed near Chué Springs. We cannot be sure how many of these, or which parts of them, were brought back to England. In his description of the white rhinoceros, Burchell (1817b) mentioned that the animal's head "was of such enormous weight, that four men could only raise it from the ground, and eight were required to put it into the carriage."

Initially, Burchell kept all his specimens at the home of his father Matthew Burchell (1752–1828) in Fulham. The Swedish traveller Johan Wahlberg (†23), when in London en route to the Cape in the second half of 1838, commented that he saw "horns of the four presumed species of rhinoceros" in Burchell's collection (Wahlberg, 1994: xxiii, referring to a manuscript by Wahlberg and a letter to his family 5 January 1845). While the identity of the four species is unclear, it does indicate that Burchell had four pairs of rhinoceros horns. In his notes on a variety of black rhinoceros that he called *Rhinoceros keitloa*, Andrew Smith (1838b, text to plate 1) records knowing one of these: "That individuals of this species have approached Latako, or rather the country some sixty miles to the north of

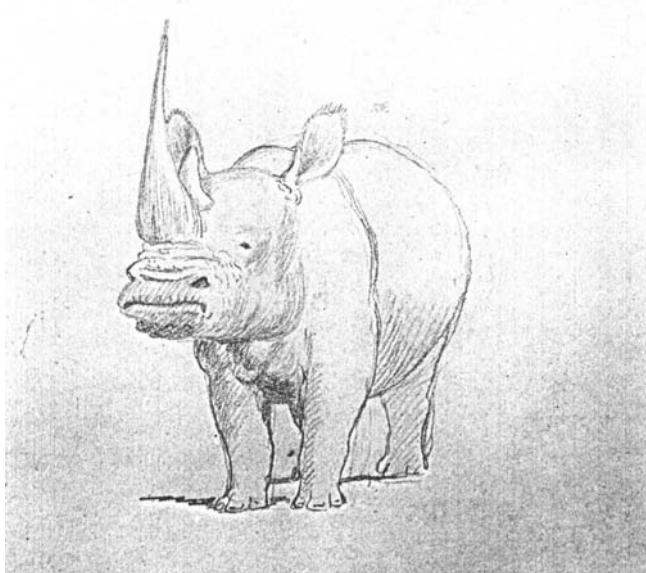


Figure 27. William Burchell. White rhinoceros, 1812 (MuseumAfrica, 68/1844).

it, we have sufficient evidence in the fact that Mr Burchell, whose merits as a traveller can be best appreciated by those who follow him in the same field, is at present in possession of the horns of an individual which was killed by his hunters." Concerning *R. keitloa*, in 1837 Smith (1837: 7) had mentioned that previous to his description "the kind of horns peculiar to it having reached the Cape, and even England, from that quarter."

During his lifetime, Burchell donated South African zoological specimens to the British Museum and to the Royal College of Surgeons of England, both in London, but most were retained and kept in Fulham. On 30 September 1817 Burchell donated 43 mammal skins to the British Museum and these are recorded in an undated and unsigned eight-page catalogue, which includes one specimen of the black rhinoceros:

11. *Rhinoceros bicornis* (9). Rhinoceros of the Dutch colonists. Killed at 'Hot Station' on the Moshowa River, in the Transgariepine, in company with its dam, on the 28th October, 1812. This species is called *Killenyan* by the Bachapins, who distinguish the *Rhinoceros simus* B. (*Trav. vol. ii, p. 75*), a hitherto nondescript and much larger species, by the name of *Mohohu* (Burchell, 1825: 4).

Burchell was unhappy with the treatment of his donated specimens. When he visited the Museum in July 1822, he found some of the skins swarming with live moths and maggots and the hair dropping off (Pickering, 1997: 313 according to a note by Burchell dated 27 July 1822 pasted into his Insect Catalogue, Hope Archives, Oxford University Museum of Natural History). Only eleven specimens are known to have been stuffed many years later, the rhinoceros apparently not among them. The first catalogue of the Mammalia in the British Museum (Gray, 1843: 186) does not mention Burchell's name for any of the five specimens of rhinoceros then present in the museum and four were definitely obtained from other named collections. Therefore, only the fifth animal, described as "very young, South Africa", could have been the one donated by Burchell. However, in the following catalogue of rhinoceros specimens in the British Museum, for the black rhinoceros Gray (1868: 1025, 1869: 317) only listed one "skull of a nearly adult animal." Once more, Burchell's name is not mentioned as being attached to any of rhinoceros specimens in Gray's detailed list (1873). Either the skin of the young rhinoceros shot by Burchell was then no longer available or recognised as his in the British Museum and, certainly it is now absent from the collection (Cave, 1962: 692; Pickering, 1997).

While we do not know exactly when Burchell gave his rhinoceros specimens to the Museum of the Royal College of Surgeons, they were included for the first time in the catalogue compiled by Richard Owen (1853: 510–511):

2959. The germ of a penultimate molar, right side, upper jaw, of the *Rhinoceros simus*. Presented by Wm. J. Burchell, Esq., F.L.S.

2960. The fourth deciduous molar, right side, upper jaw, of the *Rhinoceros simus*. It is supported by four fangs, the two inner ones being confluent at their base. The crown is much worn, and the anterior fold of enamel is reduced to an island. Presented by Wm. J. Burchell, Esq., F.L.S.

2966. The horns of a young *Rhinoceros simus*. The length of the front horn is 10 inches [25.4 cm]; its basal circumference fifteen inches [38 cm]. Presented by Wm. J. Burchell, Esq., F.L.S.

2968. The horns of a full-grown *Rhinoceros simus*. The length of the front horn is forty inches [101.5 cm]; its basal circumference is twenty-six inches [66 cm]. Presented by Wm. J. Burchell, Esq., F.L.S.

The same specimens appear in Flower (1884: 425) under the heading of "*Rhinoceros simus*, Burchell's Rhinoceros" numbered 2155, 2156, 2158A and 2157, respectively. According to Renshaw (1904: 135), a pair of horns attributed to Burchell was still exhibited in the museum around 1900 and he goes further to say that the anterior horn measured 20 inches (51 cm). Unfortunately, none of these Burchell specimens have been illustrated, and all were destroyed by enemy action on 11 May 1941 (Cave, 1962: 692).

Most of the Burchell's South African specimens remained in his private possession at Fulham until his death on 23 March 1863. His younger sister, Anna Burchell (1792–1865), donated the animals to the Museum of Oxford University on 8 April 1865, about six months before her own death on 2 October 1865 (Davies, 1980; Davies & Hull, 1983). When Alexander J.E. Cave (1900–2001) examined the material of the rhinoceros in Oxford about a century later, he found that there were eight molars, two horns and two pieces of nasal bones with overlying skin (Cave, 1962: all specimens illustrated; Pickering, 1997). During Cave's research, the teeth were carefully examined by W. David L. Ride and assigned to two distinct specimens of white rhinoceros called "Animal A" and "Animal B." One of them, a right upper second molar belonging to Animal A was designated as the lectotype of *Rhinoceros simus* Burchell, 1817 in recognition of its "excellent state of preservation and its characteristic morphology" (Cave, 1962).

The recognition of such a large and previously totally unsuspected species cannot go unnoticed for long and, as mentioned earlier, it is remarkable that Burchell himself did not quickly publish a short note in a British journal. Burchell (1817a: 82) merely mentioned that he had found "a new species of rhinoceros" among several other species not known within the boundaries of the colony. It appears that there was contemporary interest in the subject from scientists, in, for example, a paper (1822) by Everard Home on another "new" species of rhinoceros. In that period too, Georges Cuvier (1769–1832) of the natural history museum in Paris was revising his *Recherches sur les ossemens fossiles de quadrupèdes*, which had a lengthy section on the various species of rhinoceros (Cuvier, 1822). One might conjecture that Burchell's short notice prompted an enquiry from Paris, as a result of which Burchell wrote to Henri Marie Ducrotay de Blainville (1777–1850), professor at the Faculty of Science at the Academy of Paris from Fulham on 3 April 1817. The original of his communication has not been found, but Blainville duly inserted the notice in an appropriate publication. In fact, the French translation of Burchell's letter appeared twice, first in the June 1817 issue of the *Bulletin des Sciences* published by the Société Philomathique (Burchell, 1817b), and again in the August 1817 issue of the *Journal de Physique* (Blainville, 1817). The descriptive text in which *Rhinoceros simus* is named by Burchell is exactly the same in both cases, but the notice in the *Journal de Physique* is more extensive, as it begins with a translation of the introductory part of Burchell's letter, absent from the first publication, and is followed by an examination of all species of rhinoceros by de Blainville.

As both notices by Burchell naming the white rhinoceros appeared in journals which are rarely found in libraries outside France, the full text in French is given here from Burchell (1817b):

Fulham, 3 avril 1817

Monsieur,

L'intérêt que vous prenez aux progrès de la Zoologie, me fait croire que la communication de la découverte d'une nouvelle espèce de Rhinocéros doit vous être agréable; et si

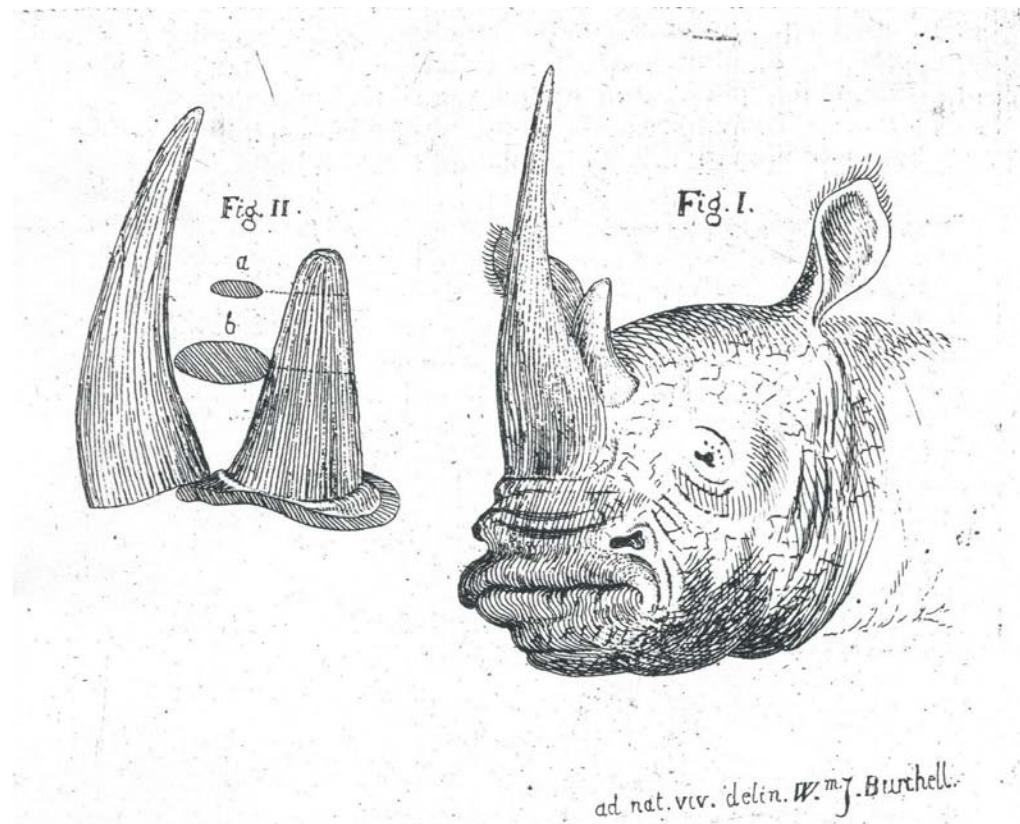


Figure 28. William Burchell. Engraving of the head of white rhinoceros: "Figure 1. Ad nat. viv. delin. W^m J Burchell" (*Bulletin des Sciences*, 1817, plate facing p. 100).

la courte description de cet animal et la figure qui l'accompagne vous paroissent dignes d'être insérées dans quelques Annales d'Histoire naturelle, je vous prie de les rendre publiques.

J'ai l'honneur d'être, etc.

W.-J. Burchell

Dans mes voyages dans l'intérieur de l'Afrique Méridionale, j'ai rencontré cet animal pour la première fois vers le vingt-sixième degré de latitude, habitant des plaines immenses, qui sont arides pendant la plus grande partie de l'année; mais, fréquentant tous les jours les fontaines, non seulement pour boire, mais aussi pour se rouler dans la boue qui, adhérant à une peau entièrement dégarnie de poils, sert à le défendre du soleil brulant de ce climat. Sa grosseur excède presque le double de celle du Rhinocéros décrit sous le nom de *Rh. bicornis*.

Ces deux animaux sont reconnus par les Nègres et par les Khoisan pour deux espèces très-distinctes, et portent chez eux des noms particuliers; et, comme nous en avons tué dix, j'ai eu assez d'occasions d'observer les caractères qui les distinguent, et qui consistent principalement dans la forme de la bouche; ce que l'on peut certifier en faisant la comparaison du *Rh. bicornis* et même de l'*unicornis* avec la figure ci-jointe, que j'ai soigneusement faite d'après nature. J'ai nommée cette nouvelle espèce *Rhinoceros simus*.

Les Nègres et les Hottentots m'ont rapporté qu'elle ne mange que de l'herbe, tandis que l'autre se nourrit des branches des arbres et des buissons; ce que la forme différente de la bouche semble prouver. La tête, séparée de la première vertèbre, étoit d'une pesanteur si énorme, que quatre hommes ne purent la lever de terre, et qu'il en fallut huit pour la mettre dans le chariot. La chair des deux espèces est également bonne à manger, et elles se ressemblent par la corne double et par le défaut de ces plis

remarquables de la peau, qui distinguent, au premier coup-d'œil, le *Rhinoceros unicornis*.

Les mesures comparatives suivantes, prises sur des individus adultes que nous avons tués dans ces pays, serviront de preuve de la différence de grandeur.

	<i>bicornis</i>	<i>simus</i>	
De l'extrémité des lèvres à l'insertion de la queue	111	134	Pouces angl.
La longueur de la queue	20	25	
Circonference du corps	100	140	
De l'extrémité des lèvres à oreilles	272	43	

An English translation made by Jardine (1836: 186–188), who omitted the opening paragraph (here added), follows.

Fulham, 3 April 1817

Sir,

Considering the interest which you have in the progress of zoology, I hope that you will like this communication about the discovery of a new species of rhinoceros. If the short description of this animal and the drawing which accompanies it would bear insertion in some journal of natural history, I request you to make this public.

Yours Sincerely,

W.J. Burchell

In my travels in the interior of southern Africa, I met with this animal for the first time near the 26° of latitude, inhabiting the immense plains, where they are wild during the greatest part of the year. They frequent the fountain every day, not only for drink, but also for the purpose of rolling in the mud, which, by adhering to a skin entirely free from hairs, serves to protect them from the scorching heat of the

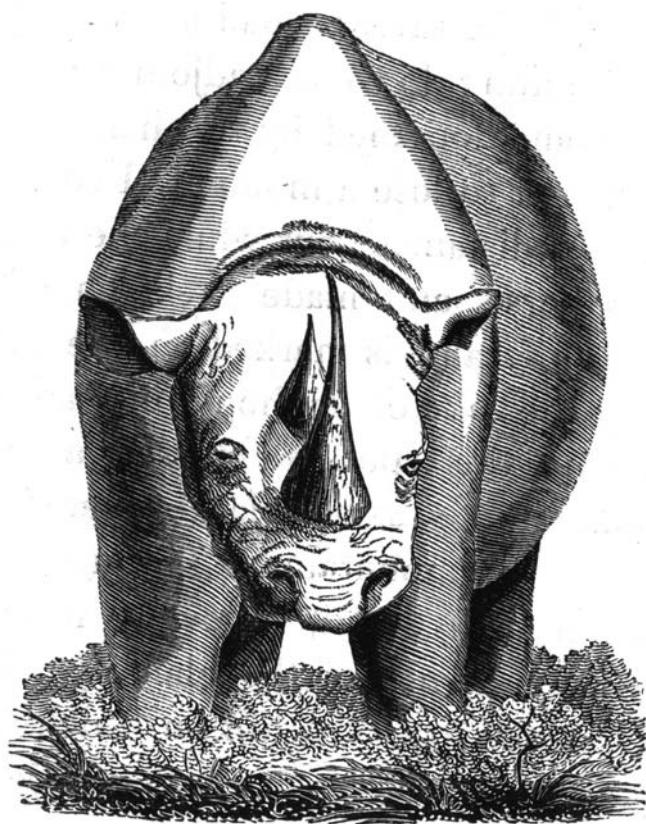


Figure 29. Vignette of black rhinoceros (Burchell, *Travels in the Interior of Southern Africa*, volume 2, 1824, p. 46).

climate. The size is nearly double that of the species named *Rhinoceros bicornis*. These two animals are recognised by the negroes and Hottentots, as two very distinct species, and are distinguished by them by different names. As we have killed 10 examples, I had had sufficient opportunities of observing the characters which distinguish them. They consist principally in the form of the mouth, as may be veri-

fied by comparing the *Rhinoceros bicornis* and the *Rhinoceros unicornis* with the figure which I have carefully drawn after nature. I have named this species *Rhinoceros simus*. The negroes and Hottentots inform me, that it eats nothing but grass, while the other species feeds on branches of trees and shrubs, – a peculiarity which may be inferred from the structure of the mouth. The head, when separated from the

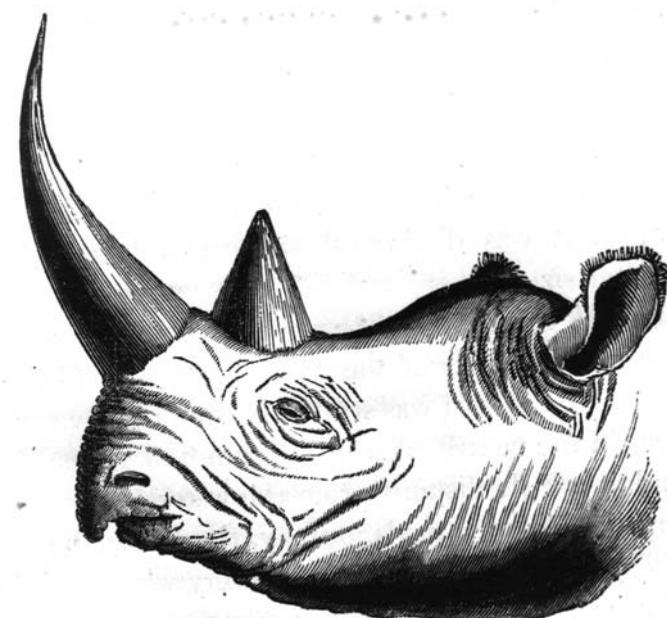


Figure 30. Vignette of the head of a black rhinoceros (Burchell, *Travels in the Interior of Southern Africa*, volume 2, 1824, p. 79).

first vertebrae, was of such enormous weight, that four men could only raise it from the ground, and eight were required to put it into the carriage. The flesh of the two species is equally good to eat; and they resemble each other in having a double horn, and wanting conspicuous hairs on the skin, which distinguishes, at first sight, the *Rhinoceros unicornis*. The following comparative measures, taken from adult individuals, killed by ourselves, in these countries, will afford a proof of the difference of size [in British inches, centimetres added in brackets]:

	<i>R. bicornis</i>	<i>R. simus</i>
From the lips to the insertion of the tail	111 (281.9 cm)	134 (340.4 cm)
Length of the tail	20 (50.8 cm)	25 (63.5 cm)
Circumference of the body	100 (254 cm)	140 (355.6 cm)
From the extremity of the lips to the ear	272 (69.9 cm)	43 (109.2 cm)

Burchell was aware that his description had been published in a French journal and he referred to it in his *Travels* (Burchell, 1824a: 75). A plate even accompanied the original notice in the *Bulletin des Sciences* (Burchell, 1817b, plate facing p. 100; Figure 28). This same illustration was copied in subsequent notices of Burchell's new species in the papers by Blainville (1817, plate facing p. 192), Burchell (1817c) and Desmarest (1822, Supplement plate 12, fig. 5). Burchell privately complained about the poor reproduction of his drawing in a letter to Richard Anthony Salisbury (1761–1823), dated Fulham 30 September 1817 (preserved in the Linnean Society, London (Salisbury MSS), not seen in original; quoted after Cave, 1947: 144):

In the plate of *Rhinoceros simus* which Blainville has published in the *Bulletin des Sciences*, he has added, in my name, a pair of horns which I knew nothing about: nor can I guess for what purpose they were put there: they certainly are very different from the horns of *Rhinoceros simus*. So that you see my own endeavours at correctness are rendered fruitless.

Burchell apparently had not seen or read Blainville's longer exposé on the different types of rhinoceros appended to Burchell's note as published in the *Journal de Physique*, because Blainville explained that the illustration of the new *Rhinoceros simus* was accompanied on the same plate by the figure of a pair of horns, which were obtained by Henry Salt (1780–1827), who travelled in Ethiopia during 1809–1810 and in 1811 presented a pair of rhinoceros horns to the Museum of the Royal College of Surgeons of England, London (Largen, 1988). The horns were listed by Clift (1831: 120, no. 832 from the "Cape of Good Hope") and by Owen (1853: 511) as those of an "African rhinoceros, *Rhinoceros bicornis*", but Flower (1884: 425, no. 2158) listed them among specimens of the white rhinoceros.

Although the description of the white rhinoceros appeared in a rather obscure publication, and one which was inaccessible to most scientists in England, it has ensured that Burchell has the credit of naming this species. In the *Travels*, Burchell (1824a: 75) merely glances over the existence of this new species of rhinoceros in a footnote, stating that the animal will be more fully described later on in the work, but of course this never appeared. Burchell also planned to write a separate treatise about the zoological and botanical results of the journey (Burchell, 1822, vol. 1: 18), and despite delays, in 1835 he still hoped to complete it: this we know from a letter Burchell wrote to William Jackson Hooker (1785–1865) (McKay, 1941: 66). In fact, there is not even a manuscript which could be regarded as the

start of such an enterprise, and Burchell never wrote anything more about the white rhinoceros.

7. Delalande

Eastern Cape, 1820. Table 7, Figure 31

Pierre Antoine Delalande (1787–1823) had been to Portugal and Brazil to collect natural history specimens for the Museum of Natural History in Paris, before he travelled to South Africa with his nephew Pierre Jules Verreaux (1807–1873). Between his arrival on 8 August 1818 and his departure on 1 September 1820, he made three trips to different parts of the country, resulting in a collection of 13 405 specimens, including 228 mammals belonging to 50 species (Barnard, 1956; Varley, 1956; Gunn & Codd, 1981: 128). Delalande's third trip, starting on 2 November 1819, took him to the Eastern Cape, travelling by boat to Algoa Bay, and then in a northeasterly direction as far as the Keiskamma River.

The Muséum National d'Histoire Naturelle in Paris preserves the mounted skeleton, skull and horns (but not the skin) of a male black rhinoceros collected by Delalande in 1820, registered in 1821 as number 7969 and exhibited in the Zoological Gallery. The shoulder height is about 170 cm, and the length of the skull 65 cm (Zukowsky, 1965: 29). The skull was mentioned by Blainville (1846a: 4), who figured this specimen in his osteographical atlas (Blainville, 1846b, pl. 3; Figure 31). As Delalande's (1822) official report has few details of places and dates, it is unknown where and when he collected the black rhinoceros. It may have been during the first half of 1820 in the forests between the Great Fish River and the Keiskamma River, where he stayed for a long time.

Delalande (1822) described how his dissection of a rhinoceros might have cost him his life. He had completed skinning the animal and went back to camp to fetch his assistants and waggon. On his return, irritated by the scent of the dead rhinoceros, his horse suddenly reared up so violently that Delalande was thrown to the ground. He bruised his head and smashed his shoulder, an injury from which he never fully recovered. His biographer Thiébaut de Berneaud (1825: 488) may have had this incident in mind when he blamed Delalande's terminal illness on his efforts to dissect a rhinoceros on the Great Fish River: "un rhinocéros bicorné sur les rives du Groote Vis."

8. Campbell

North West, 1820. Table 8, Figures 32–36

John Campbell (1766–1840) was a director of the London Missionary Society (LMS) and he twice visited South Africa to inspect mission stations. Despite travelling to Latako (Dithakong) on his first visit (1812–1814), he never mentioned a rhinoceros in his *Travels in South Africa* of 1815. Campbell again visited the Cape from 24 February 1819 to 9 May 1821 and went as far as Kaditshwene, north of the present town of Zeerust. In the sequel to his first book, there are no references to the rhinoceros, except during an excursion from Mashow to Kaditshwene between 25 April and 19 May 1820 (Campbell, 1822a) when he recorded that hunters tried to shoot rhinoceroses, possibly because these animals provided enough meat to feed the large party.

When Campbell returned to the city of Mashow, he was told that on 18 May 1820 two rhinoceroses had been shot six miles to the east by a man called "Jager" which means "hunter" in Dutch. According to Thompson (1827a: 117), this rhinoceros was shot by Cupido Kackerlackie, a Khoisan from Bethelsdorp,

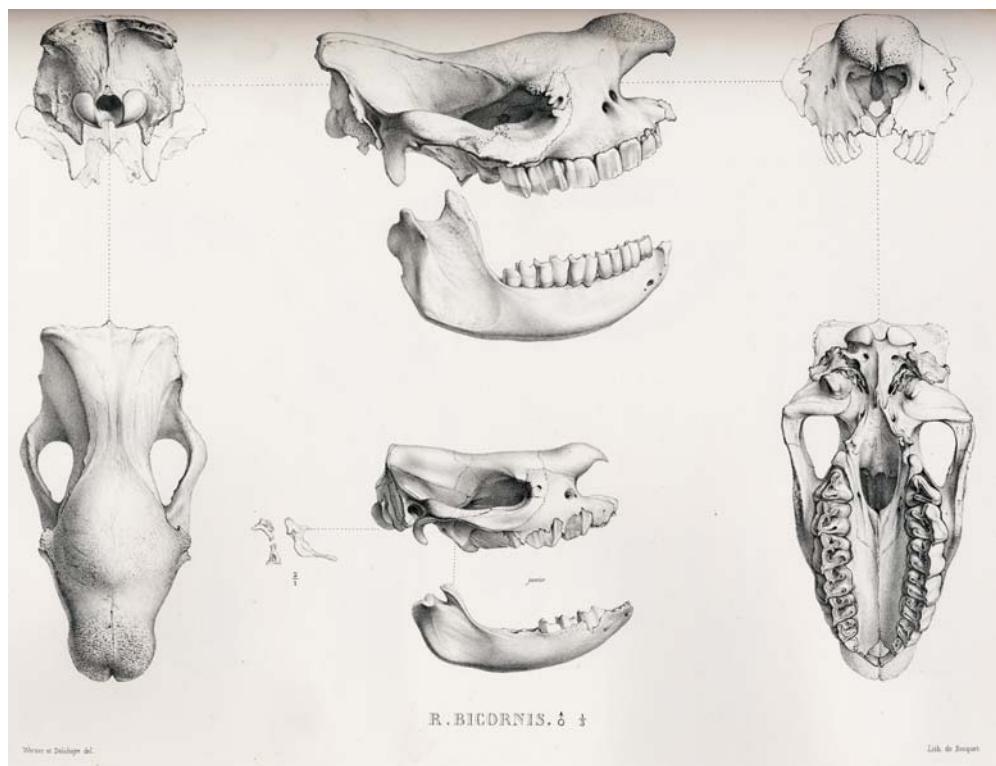


Figure 31. Skull of a black rhinoceros collected by Delalande in 1820 (Blainville, *Ostéographie, Atlas*, volume 3, 1846, plate 3).

Table 7. Records of the rhinoceros relating to the Eastern Cape.

No.	Date	Locality	Coordinates	Type	Species	Source
Paravicini di Capelli (§3)						
D4	1803 June 6	Dirkskraal	33°08'S 26°04'E	S	rhino	Paravicini, 1965: 105, 244
Pierre Antoine Delalande (§7)						
A3	1820	Great Fish River	33°10'S 26°00'E	K	bicornis	Delalande, 1822. Specimen in Paris
Ludwig Krebs (§11)						
	1826	Eastern Cape		K	bicornis	Ffoliot & Liversidge, 1971: 70–72
Heinrich Boie (§12)						
	1826	Eastern Cape		K	bicornis	Specimen in Leiden
Andrew Steedman (§14)						
A8	1826	Fort Willshire	32°59'S 26°55'E	S	rhino	Steedman, 1835, I: 69
A9	1830s	Bashee River	32°04'S 28°40'E	H	rhino	Steedman, 1835, I: 254
James Moodie (§14)						
D4	1830s	Fish River	33°30'S 26°55'E	H	rhino	Moodie, 1835: 91
Thomas Pringle (§14)						
	1830s	Eastern Cape		H	rhino	Pringle, 1835: 41
Thomas Arbousset (§20)						
A10	1836	Transkei region	31°10'S 27°45'E	H	rhino	Arbousset, 1842: 344
Charles Bunbury (§14)						
D4	1838	Great Fish River	33°30'S 26°55'E	H	rhino	Bunbury, 1848: 139
James Backhouse (§14)						
	1838–1840	Eastern District		H	rhino	Backhouse, 1844: 172
D4	1838–1840	Fish River	33°30'S 26°55'E	H	rhino	Backhouse, 1844: 290
William Thomas Black (§14)						
D4	before 1848	Great Fish River	33°30'S 26°55'E	H	rhino	Black, 1901: 22
Murray family (§42)						
A12	1866–1880	Graaff-Reinet	32°16'S 24°32'E	K	bicornis	Specimen in Graaff-Reinet



Figure 32. "Head of a Unicorn, killed near the city of Mashow" in 1820 (Campbell, *Travels in South Africa*, volume 1, 1822, plate facing p. 294).

who was an assistant preacher with the London Missionary Society in 1814. Campbell never went to see the animals, which were quickly cut up and eaten, but he was brought the head of one of them. The specimen particularly struck him because it was "different from all the others that had been killed" (Campbell, 1822a, vol. 1: 294–295). In all the common rhinoceroses as he observed them, the anterior horn inclined backwards and was nine or 10 inches long, while the posterior horn was short and thick. But on the rhinoceros head before him, he saw a "straight horn projecting three feet [91 cm] from the forehead" and a horny substance behind it, just eight inches (20 cm) long,

which would hardly have been noticeable from a distance (Campbell, *loc.cit*). Campbell therefore believed that the animal was a unicorn – an opinion later accepted and expanded upon by the scientific community in London. In order to carry the heavy rhinoceros head with him to London, Campbell cut off the lower jaw and probably also part of the occiput. The head of this so-called "unicorn" is shown on a coloured plate in Campbell's *Travels* (1822a, vol. 1: plate facing p. 294), restored to its presumed original state with a full set of fanciful teeth (Figure 32).

During his journeys Campbell made a large number of

Table 8. Records of the rhinoceros relating to the travels of John Campbell (§8).

No.	Date	Locality	Coordinates	Type	Species	Source
C4	1820 Apr 25	Mashow	26°03'S 25°08'E	W	rhino	Campbell, 1822a,I: 181
C5	1820 Apr 30	Musaree River	25°58'S 25°25'E	K	rhino	Campbell, 1822a,I: 198
C5	1820 Apr 30	Musaree River	<i>idem</i>	S	rhino	Campbell, 1822a,I: 200
C5	1820 May 2	Molopo River	25°53'S 25°36'E	S	rhino	Campbell, 1822a,I: 211
C3	1820 May 12	Kurrichane	25°21'S 26°11'E	K	rhino	Campbell, 1822a, I: 279
C3	1820 May 13	Philip Fountain	25°21'S 26°11'E	W	rhino	Campbell, 1822a,I: 280
C5	1820 May 14	Molopo River	25°53'S 25°36'E	S	rhino	Campbell, 1822a,I: 282
C5	1820 May 16	Musaree River	24°54'S 25°37'E	K	rhino	Campbell, 1822a,I: 285
C4	1820 May 16	Mashow	26°03'S 25°08'E	K	simum	Campbell, 1822a, I: 294
C2	1820 May 23	Meribohwhey	26°11'S 24°47'E	K	rhino	Campbell, 1822a,II: 11

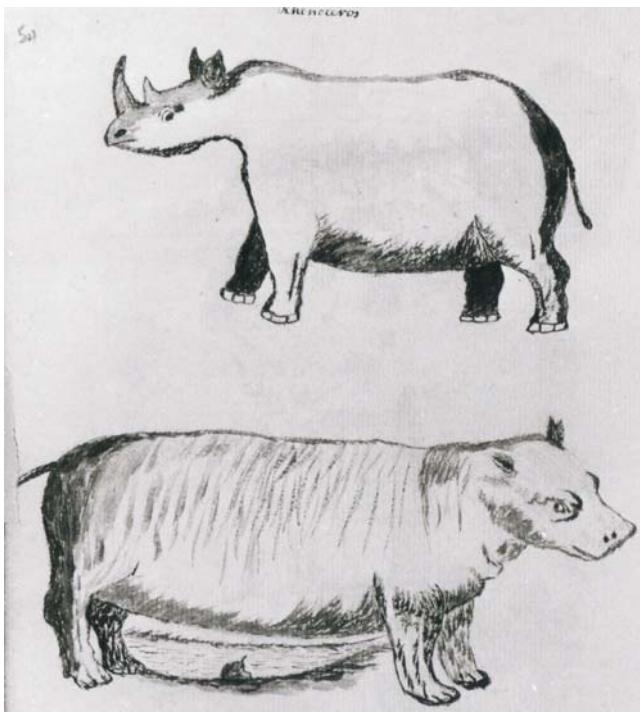


Figure 33. John Campbell. Double-horned rhinoceros, 1820 (Museum-Africa, 53/740b).

sketches, mostly of landscapes and people, all "charming examples of naïve art" (Westra, 1989; Schoeman, 1990). They are contained in two series of sketch-books. The first collection, housed in the National Library of South Africa, Cape Town, consists of two volumes with diary and sketches from 10 November 1818 to 9 May 1821, purchased from Francis Edwards, London, in 1918. There are about 600 pictures of fauna, flora, houses, buildings, people and scenery; but no rhinoceros. The second collection, in MuseumAfrica, Johannesburg, has three volumes of Campbell's manuscript diary and sketches, obtained in 1953 from the United Society for Christian Literature. Volume 1 is a Diary of the first voyage, 23 June to 24 September 1812; volume 2 is a sketchbook mainly made during the first journey; volume 3 is a miscellaneous sketchbook (all drawings were illustrated in Kennedy, 1967a). The drawing of the rhinoceros in the third volume is too crude to allow us to state with certainty that it was a black rhinoceros (Museum-Africa, 53/740b; Figure 33). The original drawing of the engraved plate of the rhinoceros in Campbell (1822a) has not been found. A diary for the period from 19 August 1819 to 26 April 1820 was bought by J.G. Gubbins of Ottoshoop and donated to the University of the Witwatersrand, but it is now missing and probably was destroyed by the fire in the university library in 1931.

On his return to England in May 1821, Campbell (1822a: 296) stated that the head of the rhinoceros killed near Mashow on 18 May 1820, without the lower jaw, could be seen in the Missionary Museum at the Old Jewry in London. In 1821, William Cooke (1785–1873), a general practitioner, tried to secure the specimen for the College of Surgeons, as appears from a letter directed to William Alers Hankey (1771–1859), banker and secretary of the London Missionary Society (dated Fenchurch Street, 20 November 1821). Cooke first asserted that "The head in the Missionary Museum supposed to be the head of the unicorn, appears to belong to a species of rhinoceros previously unknown in this country, at least, there is no such specimen in the Hunterian Museum which may be regarded as the National Depository for comparative anatomy". In view of the

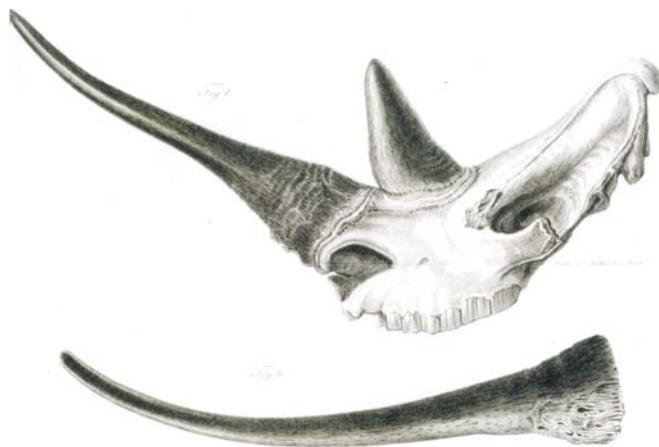


Figure 34. Skull and horn of a rhinoceros, brought to London by John Campbell (Home, *Philosophical Transactions of the Royal Society of London*, 1822, plate II facing p. 44).

animal's rarity, he suggested "that the head possessed by the Missionary Society would become much more an object of interest if deposited in the Hunterian Museum, than it ever will be should it remain in the Old Jewry. If deposited at the College of Surgeons it will not only fall under the notice of Naturalists from all quarters, but it will likewise be a subject of reference in the lectures on comparative anatomy annually delivered at that institution" (original of the letter unknown, quoted by Osborn, 1905). Apparently, the Board of the London Missionary Society did not accede to this request.

The skull of the rhinoceros brought to London by Campbell was displayed in the Museum of the London Missionary Society in Blomfield Street, Finsbury Circus, and it is shown in a perspective view of the principal room in the *Illustrated London News* of 20 May 1843 (Anonymous, 1843; Figure 35). It was next recorded as "an adult skull without the lower jaw" by Gray (1868: 1029, 1869: 321). The head then sank into oblivion, and Renshaw (1904: 146) wondered if it was still in the museum. However, it seems that sometime between 1868 and 1902, Cecil Graham found the skull lying neglected and dirty on the floor of the museum and he received permission to take it away. Graham added the skull to his large collection of weapons,



Figure 35. Campbell's unicorn displayed in the Museum of the London Missionary Society (*Illustrated London News*, 1843, p. 342).



Figure 36. “Head of black rhinoceros” after the engraving published by Campbell in 1820 (Chambliss, *The Life and Labours of David Livingstone*, 1875, p. 228).

clubs, knob-kerries and battle-axes, all made from rhinoceros horn (no further information on this remarkable collection or the owner has been retrieved). In 1902 he sold the specimen to John Pierpont Morgan (1837–1913) who, in turn, donated it to the American Museum of Natural History in New York. There it was examined by Henry Fairfield Osborn (1857–1935), an authority on fossil rhinoceroses and we have no reason to doubt that the specimen described and illustrated by Osborn (1905) was indeed the one collected by Campbell in May 1820. It is probably still in that museum, perhaps in the Department of Vertebrate Palaeontology, for C.A. Norris (*in litt.*, 28 September 1999) found that the skull of *Ceratotherium simum* was not registered in the Department of Mammalogy.

Campbell (1822a, vol. 1: 294) believed that the rhinoceros shot at Mashow was a kind of unicorn because the front horn was long and directed forwards, while the second horn was small and hardly noticeable from a distance. This identification was initially discussed in 1821 by Sir Everard Home (1756–1832), first president of the Royal College of Surgeons of England, who examined the specimen at the London Missionary Society on invitation of the Society’s treasurer. He agreed that “as far as respects the appearance of the horn, it is entirely a new species. There can be no doubt of this being the animal that has given rise to various reports of a true unicorn, having at last been discovered in Africa” (Home, 1821: 272). On 13 December 1821, Home read a paper devoted to this “new species of rhinoceros found in the interior of Africa” at a meeting of the Royal Society of London, in which he repeated some information furnished by Campbell and continued with a succinct description of the skull, said to be 3 feet (91.5 cm) in length, with a front horn of 36 inches (66 cm) (Home, 1822a: 39). His paper included very few morphological details, but this is rectified by the plate drawn by William Clift (1775–1849), which clearly shows a backwards protruding occiput, characteristic of a white rhinoceros (Home, 1822a: plate 2 facing p. 44; see Figure 34). This same plate is again reproduced by Home (1823, pl. LX).

The news of a unicorn in Africa was far more interesting than merely another species of rhinoceros and it spread quickly in European scientific circles. It was also widely disseminated in

the popular press. Campbell’s discovery was soon noticed in London in the *Gentleman’s Magazine* for September 1821, and abroad in the *Nouvelles Annales des Voyages* of 1821 and in the *Salem Gazette* for June 1822, none of them, however, including an illustration (Campbell, 1821b,c, 1822b). In Germany, a notice about this strange animal appeared in October 1821 in a magazine edited by Ludwig Friedrich von Froriep (1779–1847), where it was stated that most people at the Cape agreed that this was the biblical unicorn (Campbell, 1821a). A more informative notice based on Home’s paper appeared in the March 1822 issue of the same German magazine, this time accompanied by a drawing that is obviously based on Campbell’s (Home, 1822b). Home’s 1822 paper was later translated into Dutch and French (Home, 1824a,b). The plate of Campbell’s unicorn (Figure 33) was copied three times in the course of the nineteenth century, published also by Wilkes (1827, drawn by John Pass), Williams (1859: 194) and by Chambliss (1875: 228). In the last-named copy, the artist made the upper lip more pointed, thereby changing a white rhinoceros into a black one (Figure 36).

The fame of the new rhinoceros that resembled a unicorn was, however, short-lived. No one troubled to discuss the animal fully or even to compare it to other species of African rhinoceros. Perhaps there is a reason behind this silence, for it would not have been easy to explain why a unicorn would have two horns, even if the second was significantly smaller than the other. In fact, the posterior horn shown in the plates of the skull accompanying Home’s work is just too well developed to be ignored.

Campbell was not alone in alluding to the presence of the biblical unicorn in Africa for there had always been a possibility that the rhinoceros had contributed to the creation of the unicorn. When Clara, the tame Indian rhinoceros, toured Europe from 1741 to 1758, her entrepreneurial owner Douwe Mout van der Meer advertised that this animal was the *real* unicorn (Rookmaaker & Monson, 2000) and at least his *protégé* had only one horn, unlike the African rhinoceros. If Africa was home to extraordinarily shaped creatures like the giraffe, why might there not be a unicorn? In fact, the animal reportedly was

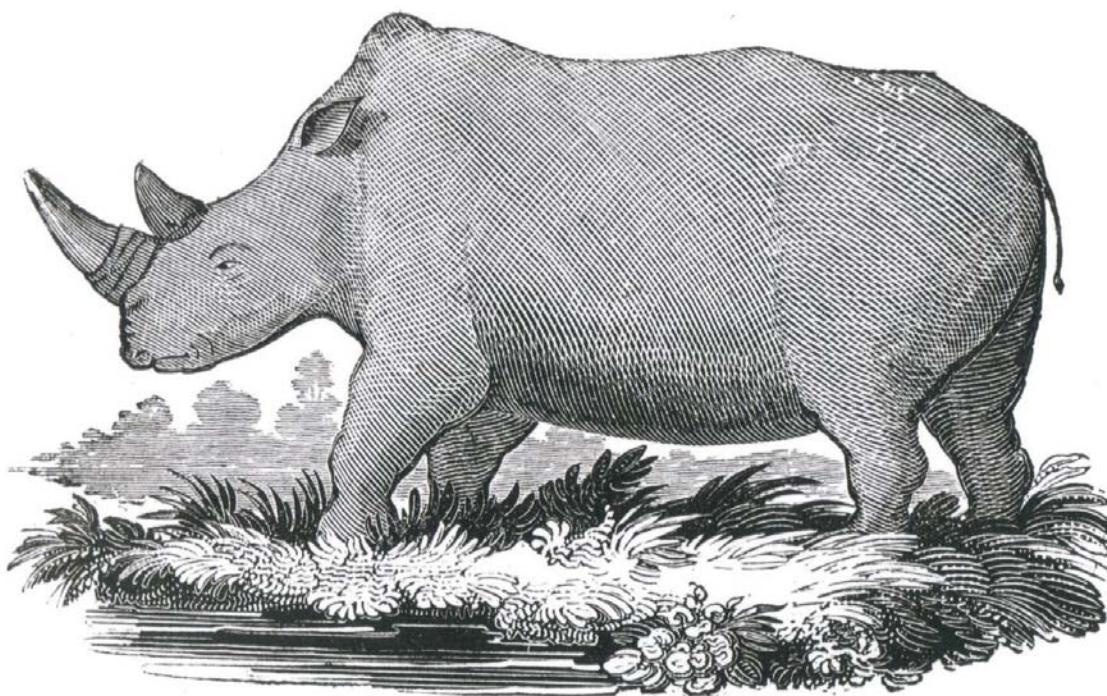


Figure 37. Vignette of white rhinoceros, “drawn from life” (Thompson, *Travels and Adventures in Southern Africa*, 1827, volume 1 (4to), p. 110, or volume 2 (8vo), p. 195).

known to the local inhabitants (Shepard, 1967; A.H. Smith, 1968; Huigen, 2007: 87–88, 213–220). In 1776 Sparrman (1977: 116) found a unicorn-like creature among rock paintings in a cave in the Eastern Cape. Some years later Barrow (1801: 313) included a plate of the unicorn in his book, but his offer of 5 000 rix-dollars for a live specimen found no takers. Governor De Mist, too, was disappointed after offering a similar large reward. When more formally trained zoologists such as William Burchell and Andrew Smith explored the interior further, they were always on the look-out for the unicorn and were even informed that such a single-horned animal existed in the more remote parts. The missionary-explorer, David Livingstone, was one of the first whites to explore what was then referred to as the “Far North”, but even when he was north of the Zambezi River, he had to be satisfied with rumours rather than seeing the real thing. Drayson (1862: 193) searched for the unicorn in Natal, but also without success. Some people believed that the unicorn resembled a rhinoceros with a single horn, others were more inclined towards the traditional perception that it was a horse with a single long horn growing from its forehead.

9. Thompson

North West, 1823. Table 9, Figure 37

George Thompson (1796–1889) arrived in Cape Town on 26 September 1818, as a clerk in the House of Messrs. Wm. Borradaile Sons & Ravenhill (Forbes, 1967: vii–xxii) and he remained there until 1859. In 1823 (April to July) he undertook a journey to the eastern frontier of the colony and to the country of the Bechuanas and, in 1824 (July and August), he went to the lower Orange River to explore trading prospects. He published his *Travels and Adventures in Southern Africa* in 1827 in two formats (Thompson, 1827a,b), recently reprinted (Thompson, 1967–1968) and there was an early translation into Dutch (Thompson, 1828). Although he must have seen a number of animals during his travels he provides very few details of them. On one occasion, on 18 June 1823, sitting around the fire on the banks of the Maquareen River (the Matlhwaring, a tributary of the Kuruman River) he listened to stories about hunting rhinoceroses and other large mammals. Thompson (1827a: 117) believed that there were two distinct species of rhinoceros in Africa, of which the species common in the Bechuanaland country

Table 9. Records of the rhinoceros relating to the North West Province.

No.	Date	Locality	Coordinates	Type	Species	Source
George Thompson (§9)						
C6	1823 June 18	Maquareen River	26°15'S 23°46'E	S	rhino	Thompson, 1827a: 117 [1967: 103–104]
Stephen Kay (§16)						
C4	ca. 1830	Mashow	26°03'S 25°08'E	K	rhino	Kay, 1833: 222
Joseph Burke (§24)						
C22	1841 June	Magalies River	25°53'S 27°36'E	K	bicornis	Gunn & Codd, 1981: 110
C21	1841 Aug 29	Crocodile River	25°46'S 26°52'E	K	simum	Gunn & Codd, 1981: 110
C23	1841 Sep	Crocodile–Pienaars River	25°30'S 28°17'E	S	rhino	Gunn & Codd, 1981: 111

Table 10. Records of the rhinoceros relating to the travels of Robert Moffat (§10). Records of sightings on his travels with Chapman in 1854, see Table 31.

No.	Date	Locality	Coordinates	Type	Species	Source
C2	1823 May 26	Mosita	26°09'S 24°46'E	K	rhino	Moffat, 1951: 81–84
C1	1824 July 8	Heuning Vlei	26°15'S 23°12'E	K	rhino	Moffat, 1951: 123
C10	1827 Apr 2	Makalongkuan	26°06'S 23°45'E	K	rhino	Moffat, 1951: 240
C10	1827 Apr 11	Marokweng	26°06'S 23°45'E	K	rhino	Moffat, 1951: 244
C9	1827 Apr 22	Chuin (Tswaing)	26°34'S 24°53'E	K	rhino	Moffat, 1951: 262
C9	1827 May 8	<i>idem</i>	<i>idem</i>	K	rhino	Moffat, 1951: 252

was illustrated in a vignette (Figure 37), said to have been "drawn from life" by John W. Melville (1787–1852), who was stationed at Philipolis, having joined the London Missionary Society after a career in surveying in Cape Town. It is not recorded where Melville saw the rhinoceros which he drew from life, although it is likely that it was in the Kuruman region. The vignette is found in both editions of Thompson (1827a,b), but is absent from the Dutch translation. While the illustrated animal is indistinct, the pronounced nuchal hump and the absence of a prehensile upper lip might indicate that the animal depicted was a white rhinoceros. Thompson (1827a: 117) implied that the animal figured as a male, because in females the horn would be much longer and more slender. He had one of those, 3½ feet (105 cm) in length.

10. Moffat

North West, 1823–1827; Botswana, 1854. Table 10

Robert Moffat (1795–1883) was another missionary employed by the London Missionary Society, and he spent most of his life in the less accessible parts of southern Africa (Northcott, 1961). He first arrived in 1817 and, after brief postings in Namaqualand and Griquatown, he settled in Kuruman, where he worked among the Bechuana until 1870 when he returned to Britain. He made several journeys further northwards, even reaching as far as what is now Matabeleland in Zimbabwe. In 1854, he accompanied James Chapman on his expedition to Lake Ngami (see §37). His daughter, Mary, married David Livingstone in 1845, through whom he kept well abreast of other explorations. Moffat was only indirectly interested in the abundant wildlife in the surrounding plains. He does not refer to rhinoceros in his book on his missionary life (Moffat, 1842), but the animal is mentioned occasionally in his private journals and letters (Moffat, 1951).

11. Krebs

Eastern Cape, 1826. Table 7

Among the collectors active in South Africa was Georg Ludwig Englehard Krebs (1792–1844), who worked for the pharmacy of Pallas & Poleman after his arrival in Cape Town on 27 May 1817 (Gunn & Codd, 1981: 213) and who died on his farm "Lichtenstein" in the Bedford District. In 1821 Krebs was recruited by Lichtenstein (§4), in his capacity of director of the Zoological Museum in Berlin, to collect natural history specimens. Krebs thus went to Uitenhage, using the grand title of "Naturalist to the King of Prussia" and between 1821 and 1831 he sent thirteen consignments to Berlin and another followed in 1837.

The ninth consignment dispatched from Uitenhage in February 1824 included six *sjamboks* (whips) made of rhinoceros skin obtained in the Eastern Cape region. The twelfth consignment,

sent in November 1829, contained a skeleton and hide of a rhinoceros. The exact locality is not recorded, but it can be assumed that it was obtained somewhere in the Eastern Cape. When Krebs listed the specimens in a letter to Lichtenstein dated 8 July 1830, he apologised that "the big bones of the rhinoceros in this collection are missing, through the carelessness of the Hottentot who was on night watch over the skeleton. The hyenas destroyed them. I myself could not stay there owing to ill health and rainy weather" (Ffoliot & Liversidge, 1971: 72). However, further on in the same letter, he stated his hope "to obtain a white rhinoceros which is found in the regions of the Vaal River, South-East of Lattakoo [sic]" (Ffoliot & Liversidge, 1971: 72). Lichtenstein should have received the black rhinoceros in 1830. It was recorded in the museum's collection by Peters (1852: 179) when he compared specimens obtained in Mozambique with "dem *Rhinoceros africanus* oder *bicornis*, welchen das Zoologischen Museum durch Krebs erhalten hat." Thereafter, the rhinoceros skeleton seems to have disappeared from view, and it is not found in the list of specimens now preserved by the museum (R. Asher, *in litt.* 2005).

12. Boie

Eastern Cape, 1826. Table 7, Figure 38

Heinrich Boie (1794–1827) has the credit of a complete specimen of the black rhinoceros in the Museum of Natural History in Leiden. In 1820 when Coenraad Jacob Temminck (1778–1858) was Director of the Leiden museum, he established the Natuurkundige Commissie van Nederlandsch Indië (Commission for the Natural Sciences of the Dutch East Indies) (Holthuis, 1995), charged with collecting specimens for the museum and which was active until 1850. On 21 December 1825, four members of the Commission left Holland on the *Dijkzicht* on their way to the East Indies. They were Heinrich Boie, Heinrich Christian Macklot (1799–1832), Salomon Müller (1804–1864) and the artist Pieter van Oort (d.1834). H. B. van Horstok (§13) was on the same boat. They arrived in Cape Town on 30 March 1826 and had to wait there for fifteen days before they could continue their journey to the East Indies. They were able to meet Andrew Smith (§18) and Carl Ferdinand Heinrich von Ludwig (1784–1847), who was collecting birds for the Cabinet in Stuttgart. On 10 April 1826, Boie wrote a long letter to Temminck about their stay at the Cape of Good Hope, which includes the following passage:

Deux naturalistes Prussiens occupés dans l'intérieur sont moins aux services du Gouvernement de Berlin, que payés par lui pour les objets qu'ils envoient et comme on ne leur [a] pas défendu d'en vendre aussi à d'autres, rien ne vous empêche de profiter aussi de leur activité. Si je vous disais que nous avions acheté pour le prix de 400 rixd. (à peu près 400 fl holl.) le squelette d'un rhinocéros d'Afrique adulte, la tête osseuse d'un éléphant, 2 peaux d'antilopes (*euchore* et

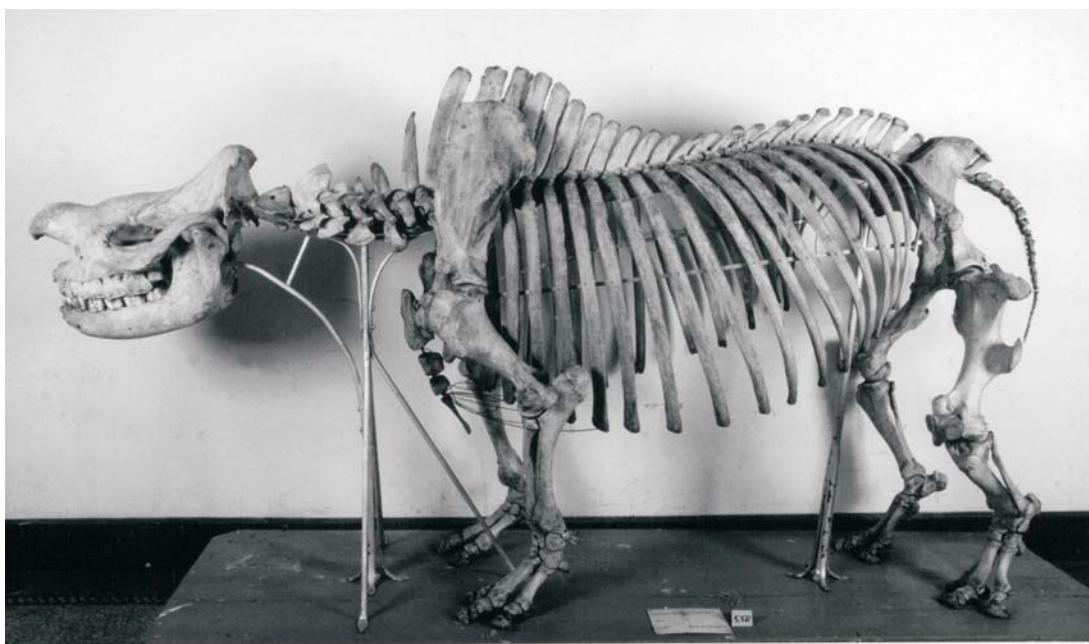


Figure 38. Black rhinoceros skeleton (neotype of *Diceros bicornis*) in the National Museum of Natural History “Naturalis” in Leiden (no. 19598).

capréolus), celle d'un *Ichneumon pharaonis*, une de Hyrax, deux têtes osseuses du *Papio porcarius* adultes, deux de l'*Antil. oreas*, ainsi que celle d'un petit chat, je suppose du *caligata*. Vous auriez probablement dit que nous n'avions pas mal fait, vu que vous déjà offert 500 fl. pour le squelette du rhinocéros, mais la vérité est que nous avons tout cela pour 200 rixd., somme que j'ai tirée séparément sur mon Frater étant persuadé que le gouvernement ne ferait pas la moindre difficulté pour les vous rembourser.

In translation:

Two Prussian naturalists working in the interior are not so much in the employ of the Government in Berlin, rather they are paid for the specimens which they sent over. As they have not been forbidden to sell to others too, nothing stops us from benefiting from their activities. If I would have told you that we have paid 400 rixd. (about 400 Dutch guilders) for a large collection of animals (the skeleton of an adult African rhinoceros, the skull of an elephant, two skins of antelopes (*euchore* and *capreolus*), the skins of an *Ichneumon pharaonis*, a Hyrax, two adult skulls of *Papio porcarius*, two of *Antil. oreas*, and that of a small cat, presumably *caligata*, I think that you would probably say that we did not do so badly as you had already offered 500 guilders for a rhinoceros skeleton. The truth, however, is that we bought all this for 200 rixd., a sum which I have drawn from my Frater persuaded that the Government would have no problem in reimbursing this amount (Original in French; letter preserved in the archives of Naturalis in Leiden).

The skeleton of the black rhinoceros mentioned in this letter was received in Leiden on 3 June 1826. It was listed in the osteological catalogue by the curator Jentink (1887: 167) as *Rhinaster bicornis*: “a. Squelette d'un individu adulte. Cap. Des M.M. Boie et Macklot”; its current number in the collection is 19598 (Figure 38). The skull and skeleton were discussed by Zukowsky (1965: 32, figs 9, 12), who selected this specimen in Leiden as the “holotype”, or rather “neotype” (Mertens, 1966) of *Diceros bicornis bicornis* (Linnaeus, 1758).

It is unfortunate that Boie did not identify the two Prussian (German) naturalists who were collecting in the Cape interior for the Museum in Berlin. There were several eligible Germans, including Louis Maire and Johannes Mund, sent to the Cape as official plant collectors for the Prussian Government, arriving

in October 1816. They worked between Cape Town and the Eastern Cape until their contract was terminated in 1821 due to their poor performance. A more likely candidate for the transaction with Boie in 1826 might be Georg Krebs (§11), were it not for the fact that he generally worked alone. He is known to have had connections with Carl Friedrich Drège (1791–1867) in Cape Town, who had similar interests, but who only started his activities after October 1826 (Gunn & Codd, 1981: 137; Tabler, 1977: 30).

13. Van Horstok

Eastern Cape, 1826. Figures 39–40

Hubertus Benedictus van Horstok (1794–1838) completed his medical studies at the University of Leiden in 1821. Planning to travel to the Cape, he wrote to the Curators at the Museum of Natural History in Leiden (4 October 1825), offering to collect zoological specimens, and this was accepted on 11 November 1825 (Gijzen, 1938: 105–107; Fransen *et al.*, 1997: 244–245). Van Horstok arrived in Cape Town on 30 March 1826 on the same boat as Boie and Macklot (§12). He did not himself travel into the interior and it is likely that he obtained specimens that were for sale in Cape Town. He sent a white rhinoceros skull to Leiden, where it was registered in August 1831, but there are no further records about its origin (Jentink, 1887: 168, cat. a). It is possible that Van Horstok also arranged for a specimen of the black rhinoceros, which arrived in the Cabinet of Professor Vrolik of Amsterdam in 1829.

Many of the older specimens in the Zoological Museum of Amsterdam came from the once famous Cabinet of Gerardus Vrolik and his son Willem Vrolik (Van Bree, 1994; Nespoli, 1999). From 1796 onwards, Gerardus (1775–1859) taught botany, anatomy and various medical subjects at the Atheneum Illustre in Amsterdam, while Willem (1801–1863) was professor of medicine in Groningen and in Amsterdam. Gerardus Vrolik had a collection of natural history specimens that was said to be the largest and most valuable of all the private museums in Europe. Upon his death in 1859, it was inherited by his son, who started to catalogue the collection. This task was completed after his death by his assistant Justus Lodewijk Dusseau (1824–1887) in 1865 who listed three rhinoceros skulls from the



Figure 39. Skeleton of black rhinoceros from the collection of Gerard Vrolik, in the Zoological Museum of Amsterdam.

East Indies, as well as a skeleton from Africa: "723.9. *Squelette d'un Rhinocéros d'Afrique. Rhinoceros bicornis Africanus. Cap de Bonne Espérance*" (Dusseau, 1865: 174). Unfortunately there is no record of how the specimen was obtained. It is known that Vrolik had dealings with Van Horstok at the Cape, and this may have been the source of the skeleton, but this is of no assis-

tance in tracking down the collector or the locality, because Van Horstok purchased specimens while he lived in Cape Town.

The specimens in the *Museum Vrolikianum* were sold in 1865 to a committee of citizens of Amsterdam. Those relating to human anatomy and osteology went to the University of Amsterdam, while the osteological specimens all became part of the Museum of the Genootschap Natura Artis Magistra, which also had a zoological garden and a library. In 1938, when the zoo was almost bankrupt, the entire museum collection was transferred to the University of Amsterdam and placed in its Zoological Museum (Van Bree, 1994). The skeleton of the black rhinoceros is now registered in that institution as number ZMA 506 (Figure 39). When Vrolik examined the bones of this adult African rhinoceros obtained in 1829, he found that there was tissue left on the bones, which he removed after soaking the lower jaw in lukewarm water. This revealed four small incisors, which was sufficiently unusual to be noticed in a short anatomical paper (Vrolik, 1830, 1837), illustrated by a plate of the jaw (Figure 40).

14. Records from the Eastern Cape

Eastern Cape, 1826–1848. Table 7

There are a number of authors who confirm the continued presence of the rhinoceros in the Eastern Cape in the first half of the nineteenth century. As their reports were based on information received from local people, it is likely that the animals had become too scarce to be seen regularly. Andrew Steedman (1835: 254), for example, mentioned that there were rhinoceros in the thick bushy country east of the Bashee River. He recorded that in 1826, at Fort Willshire on the Great Fish River, he had met a Khoisan hunter named "Skipper", who had recently been attacked by a rhinoceros which had "thrust its horn into the horse's chest, throwing horse, Hottentot and all, over its back" (Steedman, 1835: 69).

John Wedderburn Dunbar Moodie (1797–1869) noted that rhinoceros were present in considerable numbers along the

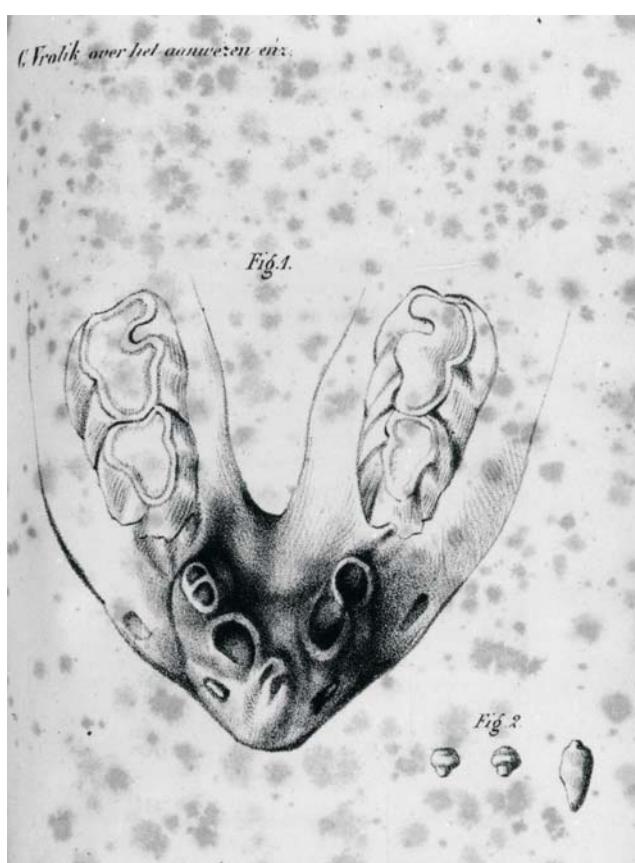


Figure 40. Upper jaw of black rhinoceros (Vrolik, *Bijdragen tot de Natuurkundige Wetenschappen*, volume 5, 1830).

Table 11. Records of the rhinoceros relating to the travels of Andrew G. Bain (§15).

No.	Date	Locality	Coordinates	Type	Species	Source
C7	1826 July 31	Mashow River	26°45'S 23°17'E	T	rhino	Bain, 1949: 24
C1	1826 Aug 2	Honing Vlei	26°18'S 23°20'E	S	rhino	Bain, 1949: 26
C1	1826 Aug 4	from Honing Vlei to Konkay	26°13'S 23°22'E	K	bicornis	Bain, 1949: 27, 29
				K	simum	
C1	1826 Aug 7	Konkay (=Kunkwe)	26°09'S 23°29'E	S	rhino	Bain, 1949: 33
F2	1826 Aug 19	Sibootzaanie	25°05'S 25°18'E	S	simum	Bain, 1949: 48
F2	1826 Aug 20	Silaqualaly River	24°57'S 25°20'E	S	rhino	Bain, 1949: 50
F1	1826 Aug 27	Country of Bakweens	24°48'S 25°24'E	S	rhino	Bain, 1949: 66
C8	1834	Seechagholie River	26°30'S 25°15'E	S	bicornis	Bain, 1949: 139, Steedman, 1835, II: 232
				S	simum	<i>idem</i>
C5	1834	Maloppo River	25°53'S 25°35'E	K	simum	Bain, 1949: 141, Steedman, 1835, II: 235

banks of the Great Fish River, (Moodie, 1835: 91) but the poet Thomas Pringle said that they were nearly extirpated within the "old" boundaries of the Cape Colony as well as in the Eastern Cape (Pringle, 1835: 145). Pringle was aware of two species of rhinoceros (unnamed), but he did not specify that these would be present in the Eastern Cape as Shortridge (1934: 416) later believed. The Quaker missionary James Backhouse (1794–1869) visited the Cape of Good Hope from 27 June 1838 to 9 December 1840 on his way home to England from Australia (Gunn & Codd, 1981: 84) and he mentioned the existence of *Rhinoceros bicornis* in the Fish River Bush and "in the thickets of the Eastern District, and there it is but seldom seen" (Backhouse, 1844: 172, 290).

Sir Charles James Fox Bunbury (1809–1886) stayed at the Cape between 20 January 1838 and March 1839 (Gunn & Codd, 1981: 108) and from 22 March 1838 onwards, he made a tour of the Eastern Province as far east as the Keiskamma River. He arrived on the banks of the Great Fish River on 23 April where he found extremely dense bush: "The vegetation is so succulent that fire has no effect on it, even in the driest weather, and at the same time so strong and rigid, and so excessively dense, that there is no getting through it without cutting your way at every step" (Bunbury, 1848: 139). Elephants had recently disappeared, but the rhinoceros still existed, although it had become extremely rare. Either in 1848 or 1852, William Thomas Black patrolled the bush along the Great Fish River during the frontier conflict, but he was not optimistic about finding a rhinoceros, suggesting that they had left this part of the country "years ago" (Black, 1901: 22).

15. Bain

North West, Botswana, 1826–1834. Table 11

Andrew Geddes Bain (1797–1864) arrived at the Cape in 1816 and settled in Graaff-Reinet (Le Roux, 1939: 28). He journeyed to Bechuanaland (now Botswana) in 1826 and to KwaZulu-Natal in 1829 accompanied by John Burnet Biddulph (1796–1837), a trader who had arrived in South Africa with his family as an 1820 Settler (Bain, 1949). In 1834, Bain joined Andrew Smith's expedition as far as the Molopo River and then continued independently with Jan Sauer (1814–1870).

Bain's diaries mention the rhinoceros only sporadically. The most interesting day in this regard was 4 August 1826 when, just north of Heuningvlei, Biddulph first shot a male black rhinoceros and later that same day a white one. Bain took time to make a sketch (which is no longer known to exist) of the

black rhinoceros. While he was sketching, the Tswana waited impatiently and once the drawing was completed, they took less than half an hour to reduce the animal to a skeleton. Next morning Bain went to examine the white rhinoceros, having never seen the animal before and, in fact, was not aware that it had been previously described. The Griqua called it "white rhinoceros." Again he made a drawing (now not known) and took measurements: the body was 9 feet 2 inches (279 cm) long and 13 feet (396 cm) in circumference. He observed that the animal's horn was exceptionally long and perfectly straight, the nose broad and flat, and the ears looked as if placed on its shoulders.

The 1834 journey with Jan Sauer along the Molopo River was undertaken in order to procure live and dead animals for a North American agent. They bagged both black and white rhinoceroses during the journey, and apparently a few specimens were captured alive. On 18 November 1834, they were attacked by a large horde of "Matabely" (Ndebele), sent by their "king" Mzilikazi. Bain survived and returned home, but his wagons and possessions were all lost (Bain, 1949: 141). The United States connection is confirmed by a report in the *Boston Investigator* (12 June 1835) stating that the Macomber & Co.'s Menagerie (or Macomber Circus) owned from 1825 to 1839 by Zebedee Macomber (1785–1875) had engaged people in South Africa to obtain animals: "...they were returning with four giraffes, the hide of a two-horned white rhinoceros and two living rhinoceroses, when they were attacked by some people who took the animals and all the baggage" (Rookmaaker, 1998c: 108). In the 1830s North American circuses were active in procuring animals for exhibition, including four Asian rhinoceros (Reynolds, 1968, 1970). Macomber pioneered the menagerie business and he visited Africa three times in 1834 and 1835 in order to obtain animals for the Boston Zoological Association (Slout, 1998: 194).

16. Kay

North West, 1830. Table 9

Stephen Kay (1833) introduced himself as a corresponding member of the South African Institution, an organisation founded in Cape Town in 1829. After reaching Mashow (near present Mafikeng), one of the Khoisan in his party shot a rhinoceros and Kay witnessed the scramble for the meat: "Every one threw aside his mantle; and in a state of perfect nudity began butchering for himself, conceiving that he was fully entitled to every piece he might be able to cut off;



Figure 41. The mammal display in the Saffron Walden Museum, showing a white rhinoceros collected by Robert Dunn in the 1840s (Player, *An Abridged Catalogue of the Saffron Walden Museum*, 1845, frontispiece).

consequently very few minutes elapsed before this prodigious creature was dissected, and nothing but bones and dung left on the spot" (Kay, 1833: 22).

17. Dunn

South Africa, 1833. Figure 41

Robert Newton Dunn (1795–1846) was an 1820 Settler who traded in ivory in Port Elizabeth, and he was the father of John Dunn, later renowned as the "white Zulu Chief" (White, 1991: 101). Dunn was in contact with his brother, Hannibal Dunn (b. 1797), who, in 1834, became a trustee of the Saffron Walden Natural History Society that had been founded in November 1832 by Jabez Gibson (1794–1838), a prominent and wealthy citizen of the town (Loughney, 2006). The December 1833 minutes of the Society's Committee record the discussion of large shipment of African animals sent by Robert Dunn, together with a bill of £492-8-2½ (Pole, 1985). However, only some of these specimens were purchased and they included the hides of an elephant and a white rhinoceros. Dunn obtained the animals during a hunting expedition into the South African interior, but the itinerary is not specified. The rhinoceros was first listed in the catalogue by Player (1845: 6):

Rhinoceros Simus, Burch., The Double Horned Rhinoceros, South Africa.

This rhinoceros was first described by Dr. Burchell. The specimen here preserved is probably the first which was

ever brought into the Kingdom, or perhaps into Europe: another has recently been introduced by Dr. Smith.

The frontispiece in Player (1845) shows the hide on display in the main gallery beside a giraffe and an elephant (Figure 41). The specimen was removed from the collection around 1960 and was probably destroyed at the time (Pole, 1985: 101).

18. Smith

Northern Cape, North West, 1835. Tables 12, 13, Figures 42–63

Andrew Smith (1797–1872) arrived at the Cape of Good Hope in 1821 as a medical assistant in the 72nd Regiment, stationed on the eastern frontier at Grahamstown (Michie, 1876; Kirby, 1942, 1955, 1965; Tabler, 1977: 95; Kennedy, 1977). In 1823 he was promoted to the position of District Surgeon of Albany District, and in 1825 he was transferred to Cape Town to become the first Superintendent of the South African Museum founded in that year. At the end of 1836 he went back to England, being appointed Staff Surgeon in the hospital established in 1828 at Fort Pitt in Chatham.

The South African Literary and Scientific Institution was founded in Cape Town in 1832 and Smith was one of its active and prominent members. Under its auspices, he undertook to compile a "Synopsis of African Zoology" and the results were published in 10 instalments in the *South African Quarterly*

Table 12. Records of the rhinoceros relating to the travels of Andrew Smith (§18).

No.	Date	Locality	Coordinates	Type	Species	Source
B7	1830s	Griqua Town	28°51'S 23°15'E	H	rhino	Smith, 1939: 286
C9	1835 May 21	Great Chooi	26°34'S 24°53'E	T	rhino	Smith, 1940: 35
C14	1835 May 26	Meritsani	26°07'S 25°27'E	T	rhino	Smith, 1940: 42 Smith, 1975: 210
C5	1835 May 28	Molopo River	25°54'S 25°35'E	K	simum	Smith, 1940: 46
				K	bicornis	Burrow, 1971: 44
C13	1835 June 1	Mirimani River, Mosegha	25°47'S 26°03'E	K	bicornis	Smith, 1940: 50 Smith, 1975: 213
C13	1835 June 6	Mosegha Basin, Minatoe River	25°37'S 26°04'E	K	bicornis	Smith, 1940: 57 Smith, 1975: 224
					"keitloa"	Burrow, 1971: 50
C12	1835 June 18	Kaditshwane	25°31'S 26°41'E	S	rhino	Smith, 1940: 78
C12	1835 June 19	<i>idem</i>	25°31'S 26°41'E	S	bicornis	Smith, 1940: 80 Smith, 1975: 248
C15	1835 June 20	Cashan Mountains	25°29'S 26°55'E	K	simum	Smith, 1940: 80
C15	1835 June 24	<i>idem</i>	25°29'S 26°55'E	C	bicornis	Smith, 1940: 83 Smith, 1975: 249
C15	1835 June 29	<i>idem</i>	25°29'S 26°55'E	T	rhino	Smith, 1940: 91 Smith, 1975: 252
C12	1835 July 9	Oli River	25°31'S 26°48'E	K	bicornis	Smith, 1940: 102 Burrow, 1971: 56
C12	1835 July 11	<i>idem</i>	25°31'S 26°48'E	K	bicornis	Smith, 1940: 107 Burrow, 1971: 56
C11	1835 July 13	Elands River	25°19'S 27°21'E	S	rhino	Smith, 1940: 111
C11	1835 July 14	Oori River	25°19'S 27°21'E	S	rhino	Smith, 1940: 113

Table 13. Names used by Andrew Smith for the three species of rhinoceros found during the Expedition for Exploring Central Africa in 1834–1836.

Language	Name	Source
Black rhinoceros		
Scientific	<i>Rhinoceros Africanus</i>	Smith, 1833; 1836; 1837; 1838a; 1838, pl. II; 1939–40
Scientific	<i>Rhinoceros bicornis</i>	Smith, 1838: 7, pl. II; 1975
English	Black rhinoceros	Smith, 1837; 1939–40
English	African rhinoceros	Smith, 1833
Bakwena	Oorila or Muchli	Smith, 1939–40
Bechuana	Borili	Smith, 1837; 1838, pl. I; 1975
Matabili	Boreli	Smith, 1939–40
Dutch	Rhinoster	Smith, 1838, pl. II.
Keitloa rhinoceros		
Scientific	<i>Rhinoceros Keitloa</i>	Smith, 1836; 1838a; 1838, pls. I, II.
Scientific	<i>Rhinoceros Ketloa</i>	Smith, 1837
BaHurutshe [Tswana]	Kietloa	Smith, 1975
BaHurutshe [Tswana]	Ketloa	Smith, 1837
Bechuana	Keitloa	Smith, 1838, pl. I
White rhinoceros		
Scientific	<i>Rhinoceros simus</i>	Smith, 1833; 1837; 1838a; 1838, pl. II; 1839
Scientific	<i>Rhinoceros sinusus</i>	Smith, 1836
English	White rhinoceros	Smith, 1837; 1939–40
BaKwena	Mohohoo	Smith, 1939–40
Bechuana	Mohohoo	Smith, 1837; 1839
Matabili	Mogohu	Smith, 1939–40
All species of South African rhinoceros		
BaKwena	Choocooroo	Smith, 1939–40
Matabili	Chukudu	Smith, 1939–40

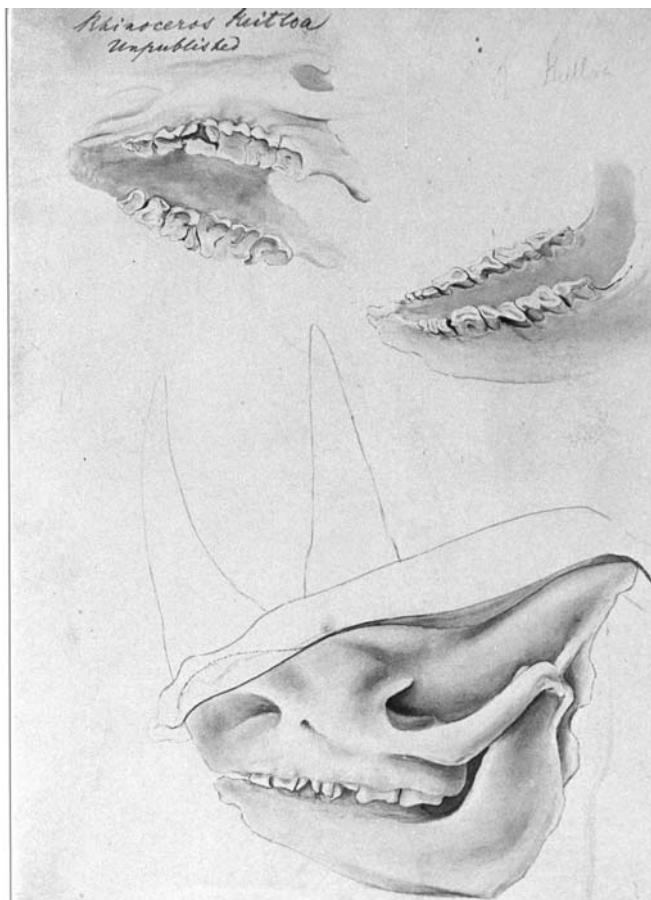


Figure 42. George Ford. Skull and toothrows of "Rhinoceros keitloa" (University of Witwatersrand, A649).

Journal between October 1833 and July 1834. When Smith came to treat the rhinoceros, he recognised two species, the African rhinoceros *Rhinoceros africanus* inhabiting South Africa generally, and a second species *Rhinoceros simus* known from the area northward and eastward of Latakoo (Smith, 1833: 179).

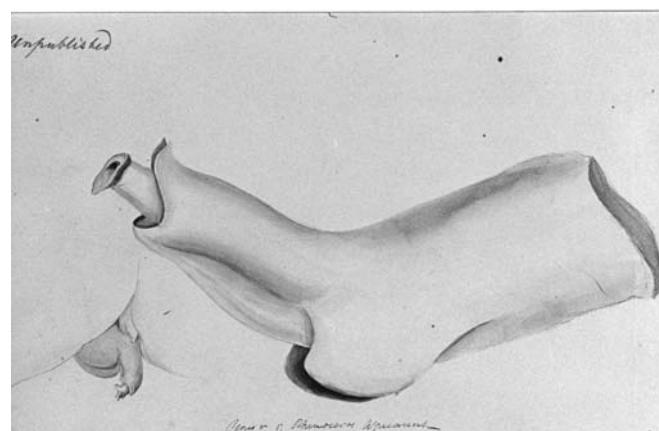


Figure 43. George Ford. Penis of "Rhinoceros Africanus" (University of Witwatersrand, A649).

When the Institution held its first public meeting in Cape Town on 1 June 1833, a report was read about how David Hume (1796–1863) and Hugh Millen (1799–1834) had reached the Tropic of Capricorn on 24 December 1832. In 1825 Hume opened a trading store in Kuruman and from there he explored the regions north of the Limpopo River in 1830 and 1833, reaching further than previous recorded white travellers (Hume, 1834; Le Roux, 1939: 29–31). During the discussion that followed the reading of the report, Smith was one of the instigators of a proposal to send a scientific expedition to those regions around the Limpopo River in order to elucidate the geography, the natural productions and the opportunities for commercial enterprise. About £1000 was budgeted and this was raised by public subscription at £3 per share and by a donation from James M'Queen (1778–1870), editor of the *Glasgow Herald* and an authority on African geography. Andrew Smith was appointed as director of an Association called the "Expedition for Exploring Central Africa" and he left Cape Town for Graaff-Reinet on 3 July 1834.

The expedition was a large affair with over forty members. Among them were the artists George Henry Ford (1809–1876)

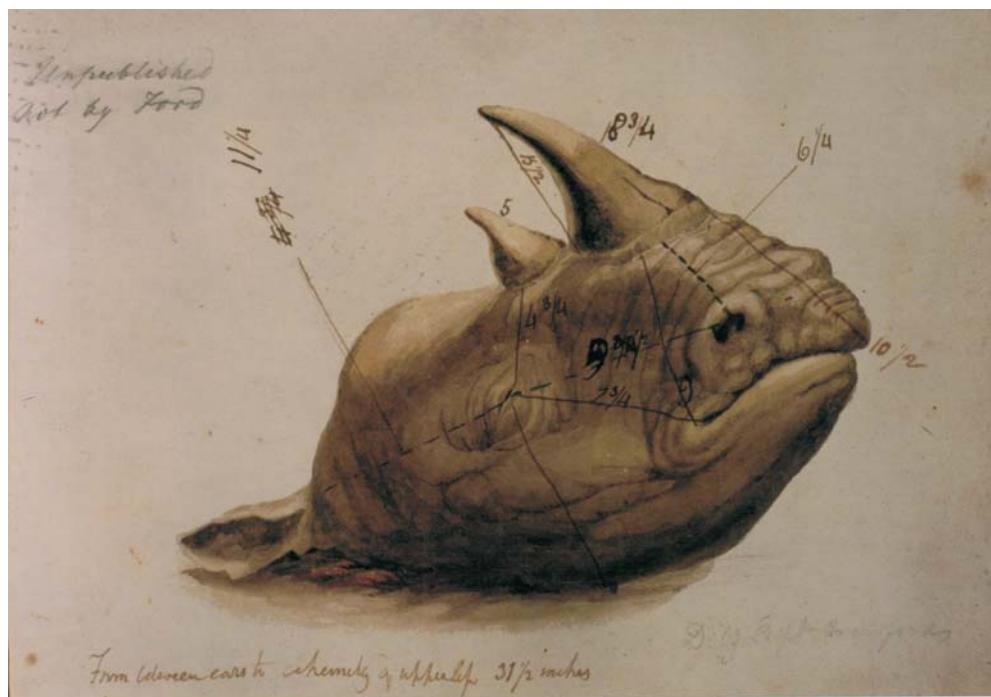


Figure 44. Captain Crawford. Head of black rhinoceros with measurements (University of Witwatersrand, A649).



Figure 45. "Rhinoceros shooting" by unknown artist (University of Witwatersrand, A649).

and Charles Davidson Bell (1813–1882), as well as an astronomer and surveyor, John Burrow (ca. 1816–1875). Leaving Graaff-Reinet on 12 August 1834 they reached Kuruman at the end of January 1835, explored the regions around the Limpopo

River and the Magaliesberg from May to October 1835, and returned to Graaff-Reinet on 4 January 1836. The experiences of the expedition were recorded in a *Diary* kept by Smith from 12 August 1834 to 9 January 1836 (Smith, 1939–1940), in his *Journal*



Figure 46. Charles Bell. The Kashan Mountains in 1835 (MuseumAfrica, MA2449).



Figure 47. Charles Bell. Scenery of the Kashan Mountains (MuseumAfrica MA1965/3781).

(compiled later with a view of publication but never completed) covering the period 20 July 1834 to 3 July 1835 (Smith, 1975), in the *Diary of Burrow* (1971), as well as in the drawings made by Bell and Ford (Schoeman, 1984).

When Smith reached Heuningvlei on 13 March 1835, he had high hopes of seeing a white rhinoceros, probably aware that Burchell had seen them there in 1812, and Bain more recently, in 1826. In the diary entry for that date, he concealed his disappointment by noting blandly that "the rhinoceros has entirely

left this district" (Smith, 1939: 311). He was patient and had his reward with the first evidence of rhinoceros two months later (21 May 1835), shortly after reaching the "Great Chooai" or "Great Tswaing", a small salt pan near the present town of Stella, shown on a watercolour made by Bell (Brooke Simons, 1998: 40). They had now reached rhinoceros country and during May, June and July 1835, travelling in the Magaliesberg and near the Crocodile River, they encountered large numbers of them. The local names of the rhinoceros used by the



Figure 48. Charles Bell. Rhinoceros attacking the hunters (John and Charles Bell Heritage Trust, C22)



Figure 49. Charles Bell. Rhinoceros hunting in the Magaliesberg (John and Charles Bell Heritage Trust, C23). Another watercolour of the same scene (C24), with minor differences, was illustrated by Brooke Simons (1998: 57).

members of the expedition are listed in Table 13. As Burrow (1971: 56) wrote in his diary upon reaching the Crocodile River, shooting a rhinoceros was a daily occurrence and he would not note it again. Smith appears to have had similar thoughts, because only on five occasions did he record the killing of a rhinoceros and a few more that ran away before they were wounded. Rhinos were in fact very numerous and on 13 July 1835, Smith (1940: 111) noted that at least 40 or 50 of them were seen. Such estimates tended later to be exaggerated. When

Charles Darwin (1809–1882) visited the Cape from 9 May to 18 June 1836 (Kirby, 1965: 222; Barnard, 2004), he talked to Smith and noted that “in lat. 24°, in one day’s march with the bullock-waggons, he [Smith] saw, without wandering to any great distance on either side, between one hundred and one hundred and fifty rhinoceroses, which belonged to three species” (Darwin, 1839: 100, repeated by Harris, 1841a: 99).

Smith’s expedition caught a young black rhinoceros on 24 June 1835, which had remained with the mother after she was



Figure 50. Charles Bell. Rhinoceros – the death (John and Charles Bell Heritage Trust, C25).



Figure 51. Charles Bell. Hunters with spears attacking a rhinoceros (John and Charles Bell Heritage Trust, C28).

shot. At first the young animal was violent and aggressive, but in the morning of the next day, it was untied and immediately "ran towards the nearest person, but with no symptoms of rage or an appearance of offering violence, commenced sucking at their clothes and manifested every evidence of suffering under extreme hunger and in hope of acquiring food. Now he was docile, affectionate and imploring" (Smith, 1975: 249–250). Unfortunately, there was no milk to feed him, "so that his life was taken, but not without reluctance."

The expedition boasted a success in rhinoceros classification: "with ourselves lies the merit of the discovery of an entirely new sort [of rhinoceros] – if this had been the only discovery we made, natural history could not have complained of the Expedition" (Burrow, 1971: 50, Keynes, 2004: 178). That was Burrow's opinion, and although it was private, many of his companions might have agreed with him, not least of whom, Smith himself. The events leading up to the recognition of the new species of rhinoceros are, strangely, passed over quickly in



Figure 52. Charles Bell. Rhinoceros caught in a pitfall (John and Charles Bell Heritage Trust, C29).



Figure 53. Charles Bell. White rhinoceros shot on the Crocodile River. Oil on canvas (Iziko Museums, CG5).

Smith's *Diary*, but he was more expansive in his *Journal*. The expedition departed from the Molopo River on 30 May 1835, reached a spring called Merimani where they passed the night of 31 May and continued to Mosegha arriving on 2 June 1835 (Smith, 1975: 212–213). In this part of the country, near

present-day Mafikeng, the hunters heard about a rhinoceros in the afternoon of Monday, 1 June. They found the animal and informed Smith "that a species different to either of the two inhabiting the countries more to the southward had been killed and that the Bituanas [Tswana] who had accompanied us from



Figure 54. Charles Bell. White Rhinoceros on the Crocodile River. Oil on canvas (Iziko Museums, CG6).



Figure 55. George Ford. *Rhinoceros keitloa*, signed original to plate 1 in Smith's *Illustrations of Zoology* (University of Witwatersrand, A649).

Latacoo were unacquainted with the animal" (Smith, 1975: 213). When Smith arrived at the scene the next morning, he was happy to confirm this suspicion. The animal indeed looked like a black rhinoceros, but those present discussed the points of difference in considerable detail. At this stage, it seems that

Smith was not yet sure if he could in fact claim to have found a new kind of rhinoceros. His doubts, however, were removed by a visitor from the Zeerust region: "a Mohorutzi [maHurutshe, a Tswana clan] joined our group and the moment he saw what lay within the circle of the observers, he exultingly exclaimed



Figure 56. George Ford. Lateral view of black rhinoceros: "Rhinoceros keitloa. Mammalia – Plate 1" (Smith, *Illustrations of Zoology*, 1838 (June), plate 1).



Figure 57. George Ford. *Rhinoceros bicornis*, signed original to plate 2 in Smith's *Illustrations of Zoology* (University of Witwatersrand, A649).

'h Kietloa! You have found your Master!' Upon his being questioned about the animal, he described it as an inhabitant of the districts more to the northward in which, he added, we might find it in abundance and then described in what respects it differed from the common species. Among those differences he mentioned its greater ferocity, it being considered by the natives the most dangerous of the three species; and on a subsequent occasion slyly informed us that the Bituanas in that neighbourhood used to liken King Musulacatzi [Mzilikazi] to

this rhinoceros" (Smith, 1975: 213). Smith (1940: 111) observed how on 13 July 1835 two of these animals were seen together, adding that "they have a much bluer colour than either of the others." This colour distinction is not found again in Smith's work, but this type of rhinoceros was called the "blue rhinoceros" by Baldwin (1863a: 443), Thomas (1872: 103), Drummond (1875: 110) and on drawings by Thomas Baines (§38). During the talks around the carcass of the *Keitloa*, the local people told Smith about two other kinds of rhinoceros which would be



Figure 58. George Ford. Black rhinoceros with calf: "Rhinoceros bicornis. Mammalia – Plate 2" (Smith, *Illustrations of Zoology*, 1838 (June), plate 2).



Figure 59. George Ford. *Rhinoceros simus*, signed original to plate 19 in Smith's *Illustrations of Zoology* (University of Witwatersrand, A649).

found further to the north, but their statements were brief and unverifiable. One kind apparently approximated the *Keitloa*, while the other was very different as it had only one long horn inclined towards the forehead (Smith, 1837, 1838a).

Drawings of the rhinoceros were made during the expedition by the two artists. George Henry Ford was the son of an English farmer who had settled at the Cape (Gunther, 1972, 1975: 326) and Smith had taken him to Cape Town in 1821 to recover for

an injury and encouraged him to pursue his artistic skills. Ford developed his talents at the Museum in Cape Town from 1825. When Smith left southern Africa in 1837 Ford went to England with him and worked in the Department of Zoology of the British Museum in London until his death. His task on the expedition was to illustrate the objects of zoology and a collection of Ford's drawings (returned to Ford when Smith died in 1872 and then presented to Albert Gunther (1830–1914)) is



Figure 60. George Ford. White rhinoceros. Uncoloured proof of plate 19, illustrating the transition from drawing to lithograph (University of Witwatersrand, A649).

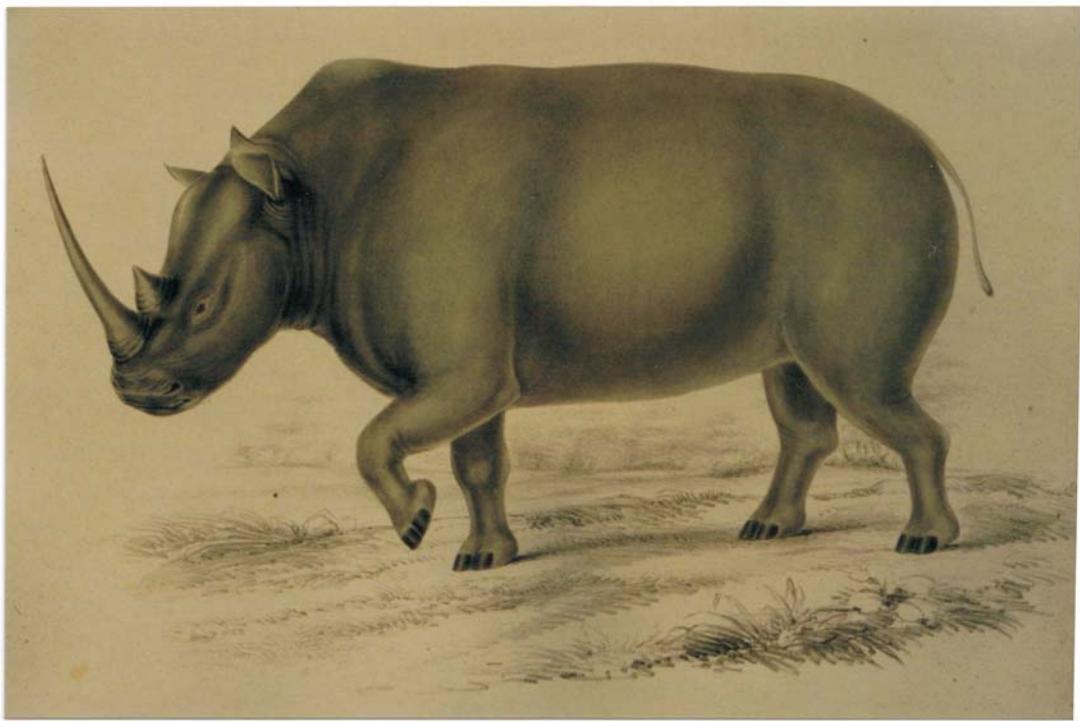


Figure 61. George Ford. White rhinoceros: "Rhinoceros simus. Mammalia – Plate 19" (Smith, *Illustrations of Zoology*, 1839 (November), plate 19).

preserved in the library of the University of Witwatersrand. This contains eight drawings of a rhinoceros (Figures 42–45, 55, 57, 59–60), of which two cannot be attributed to Ford and do not even seem to be connected with the expedition of 1834 to 1836 (Figures 44–45). It is unfortunate that the remaining six drawings are undated. Four are the originals for plates in Andrew Smith's *Illustrations of the Zoology* and it is said that they were made in South Africa. While that might be the case, they are certainly not rough field sketches and they may even have been prepared after the rhinoceros skins were mounted in Cape Town. The remaining two sketches, of penis and skull, might well have been drawn during the journey.

Charles Bell accompanied the expedition as the draughtsman for scenery and people (Warner, 1981; Brooke Simons, 1998). He incorporated the rhinoceros in eight watercolours, of which two are preserved in MuseumAfrica (Figures 46–47), six in the John and Charles Bell Heritage Trust (Bradlow, 1984; Figures 48–52), and in two oil-paintings in the William Fehr Collection (Pringle, 1982: 53; Figures 53–54). We may assume that he sketched the rhinoceros in the field from May to July 1835, the period in which these were seen regularly. It was Ford's prerogative to provide the zoological detail, not Bell's, and so the latter did not attempt to do so and his depictions of rhinoceroses are indistinct as to the species being recorded.

The Expedition for Exploring Central Africa resulted in a large collection of zoological and ethnographical specimens. The "list of articles delivered over to the Association" included 180 skins of new or rare quadrupeds, 3379 bird skins and one box containing skeletons, among other unnamed items (Smith, 1975: 299). On 19 March 1836, Smith presented his report to a public meeting of the members of the Association at the Museum in Cape Town, and a Committee of Management was elected to supervise the disposal of the collections. The committee arranged for an exhibition of the specimens in the Museum on Looyer's Plein, Cape Town, from 11 a.m. on Thursday 24 March until Wednesday 30 March 1836 (Kirby, 1965: 214). Thereafter, during early May 1836, some items were

publicly auctioned and although no details are known, Smith himself apparently took the opportunity to add to his own private collection. The sale of specimens was advertised in the *Advertiser* of 30 April 1836, but "no information about the results of the sale are now available" (Kirby, 1965: 221). It seems that Baron Carl Ferdinand Heinrich von Ludwig had acquired many specimens at this sale and when he went to Europe around the end of 1836, he took with him a large number of natural history items. He donated 133 mammals, 1860 birds, 14 fishes and reptiles, over 3 000 shells, a large collection of insects, and minerals to the Royal Cabinet of Natural Curiosities in Stuttgart. Moreover, Tübingen University received over 500 zoological specimens and an Herbarium, while other institutions in Darmstadt and Frankfurt were given mammals and birds (Bradlow, 1965). As far as can be ascertained, however, no rhinoceros material found its way to Europe from Von Ludwig's collections and there is also no other reference to the rhinoceros material brought back by the expedition at this time, although it is probably unlikely that any was sold then because the animals were so rare.

The *Report* to the members of the Association was printed in 1836 (Smith, 1836a, abridged 1836b) but it was a thin pamphlet, without illustrations and it seems unworthy of the grandeur of the expedition. By then, however, Smith had made up his mind that he had found a new species of rhinoceros, which he described as follows, using the Hurutshe name that he heard when the animal was shot:

Rhinoceros Keitloa. Colour a rusty greenish yellow, clouded with pale olive brown; horns of equal length, the anterior one curved and rounded, the posterior straight and laterally compressed. Size of the *Rhinoceros Africanus*. Inhabits the country north and south of Kurrichaine [Kaditshwene] (Smith, 1836a: 44).

Despite the lack of detail, it is acceptable as a description of a new species, the most obvious characteristic of which was the equal length of the two horns. During the nineteenth century,

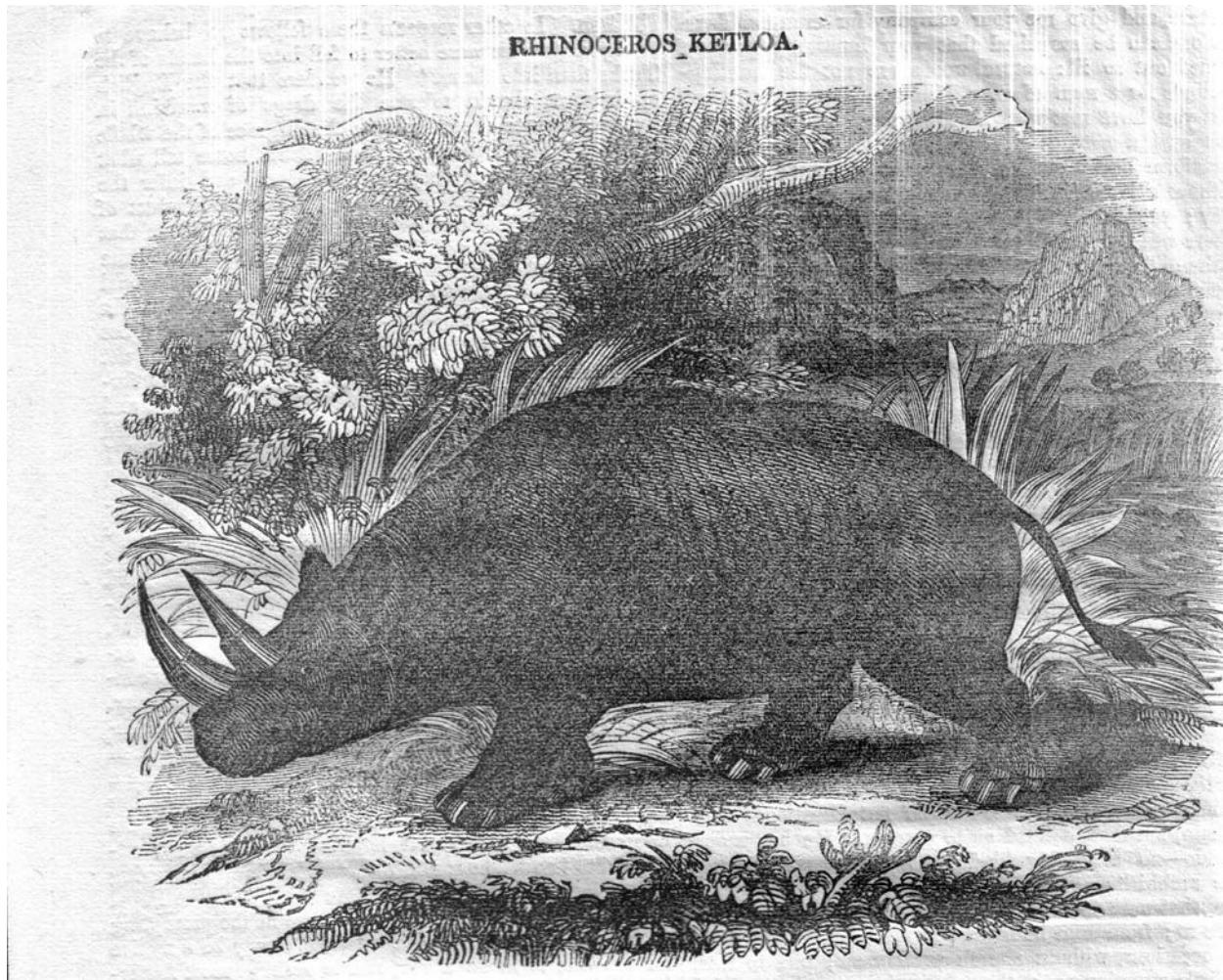


Figure 62. *Rhinoceros ketloa*, as exhibited by Andrew Smith in London (*Penny Magazine*, March 1838, p. 101).

differences between rhinoceros species in Africa were often classified by the lengths or shapes of the horns and Smith was responsible for giving scientific credence to this approach.

In 1836 the Association decided that the most valuable portion of the collection should eventually be sent to England and it arrived there about the same time as Andrew Smith did himself. He booked the Egyptian Hall in Piccadilly, London, for an exhibition. This building, erected in 1812, had originally housed the Museum of William Bullock (1773–1849) and when this was dispersed in 1819, the Hall was used for a variety of temporary exhibits. The "South African Museum," as the exhibition organised by Smith at the Egyptian Hall was called, was open to the public for one year, from 8 June 1837 to 5 June 1838, for a fee of one shilling. Andrew Smith's catalogue of 1837 was available and in it he explained that the public could view the three different kinds of rhinoceros encountered by the expedition: the keitloa *Rhinoceros ketloa* [error for *keitloa*], black rhinoceros *Rhinoceros africanus* and white rhinoceros *Rhinoceros simus*. Smith (1837: 7) conjectured that the *keitloa* usually lived further north than the others because it was not well known to the inhabitants of the area in which his specimen was shot. As points of distinction from the common black rhinoceros he enumerated "the great length of the second horn, the more elongated and slender head, the form of the hunch on the shoulder, &c. Besides these differences, which are palpable to all, the naturalist is enabled to discover various others, the most important of which is the difference of dentition." The *keitloa* was less common than either the black or the white and only 68 of them had been seen in the entire duration of the expedition. Later

transactions clarify that all three species were represented in London by full mounted specimens complete with horns. They had been prepared and stuffed in South Africa by Pierre Jules Verreaux (§7), who had been the Keeper of the South African Museum in Cape Town during Smith's absence (Gray, 1868: 1023). The first figure of *Rhinoceros ketloa* "from the specimen in the South African Museum" was published as early as March 1838 in the *Penny Magazine* (Smith, 1838c; Figure 62).

Both the *Report* and the *Catalogue* were ephemeral productions, inappropriate as an intimation of the scientific results of the Expedition. However, Andrew Smith had already started work on a full description of all the animals known in southern Africa, which was to be richly illustrated with colour engravings. Smith was able to pursue his plans and the *Illustrations of the Zoology of South Africa* were published in 28 instalments, divided into three volumes, between 1838 and 1849 (Barnard, 1950). There were 277 lithographed plates made by George Ford after his own originals, each accompanied by a descriptive text treating 50 mammals, 114 birds, 78 reptiles, 31 fishes and 4 invertebrates. The rhinoceros figures prominently in Smith's *magnum opus*. The first instalment (published on 1 June 1838) began with plates of the *Rhinoceros ketloa* and *Rhinoceros bicornis* after originals by George Ford, which prominent position seems to demonstrate that Smith considered that there would be general public interest in the discovery of a new species of rhinoceros (Figures 56, 58). The plate of *Rhinoceros simus* followed in November 1839 in the eighth instalment (Figure 61). The plate of the *keitloa* was copied by Schreber & Wagner (1855, pl. 317), while the white rhinoceros was



Figure 63. Head of *Rhinoceros keitloa* in the British Museum (Sclater, *Transactions of the Zoological Society of London*, volume 9, 1876, figure 8).

redrawn by Wilhelm Heinrich Franz Ludwig Langschmidt for a lithograph by Johannes Cornelius Poortermans (MuseumAfrica 70/828, see Kennedy, 1972: 116).

Smith (1838b, 1839) provided extensive descriptions of the three species of rhinoceros, although he could have included more details considering the very large number of rhinoceroses seen and shot during the expedition. There are measurements of all species, but there is no indication of whether they were taken from one specimen (or from which sex) or whether they were meant to be averages. The characteristics of *Rhinoceros keitloa* are highlighted, but the distribution is only vaguely delineated and no mention is made of any differences in dentition. Although Smith had stated in his booklets of 1836 and 1837 that the *keitloa* was not found south of Kaditshwene, in 1838 he referred to horns of that species collected by Burchell and this could only have been south of Heuningvlei.

The collection of "The South African Museum" in London was sold by auction in June 1838 at the Egyptian Hall. On the second day of the sale, Thursday 7 June 1838, the following three lots were offered (Smith, 1838a: 44):

- 280. *Rhinoceros Simus*, Burchell
- 281. *Rhinoceros Africanus*, male more than half grown
- 282. *Rhinoceros Keitloa*, male – a new species and the only specimen which has yet reached Europe.

No copy of the auction catalogue has been found that is annotated with buyers or prices. It is known, however, that six mammals were purchased by the London animal dealer John Leadbeater for the museum of Lord Derby at Knowsley near Liverpool, including the types of *Ichneumon cauui* Smith, 1836 and *Herpestes badius* Smith, 1838. The first specimen, as well as one of *Xerus inauris* (Zimmermann, 1780), is still present in the

Liverpool Museum (Largen, 1985; Largen & Fisher 1986: 270). The three specimens of rhinoceros were all purchased by the British Museum, and were listed in the catalogue of mammals compiled by Gray (1843: 186, 187):

- Rhinoceros bicornis*, the Gargatan or Rhinaster
- b. Half grown, South Africa, from South African Museum.
- Rhinoceros keitloa*, Sloan's Rhinoceros
- a. Adult, South Africa, from South African Museum.
- Rhinoceros simus*, Burchell's Rhinoceros
- a. Half grown, South Africa, from South African Museum.

The same information is repeated by (Gray, 1868: 1023): "the specimens of these three species, which he [Smith] collected and had stuffed by M. Verreaux under his own superintendence, are in the British Museum." Renshaw (1904: 141) saw the mounted hide of a young *Rhinoceros simus* in the British Museum around 1900, about three years old, the horns measuring 3 3/4 inch (9.5 cm) and 1 inch (2.5 cm) respectively. The specimen of *Rhinoceros keitloa* was registered as number 1838.6.9.101. These sources give the impression that these rhinoceroses were represented by mounted skins only, probably with the horns attached, because there is no mention of the skulls or skeletons. The same is inferred from a remark by Gray (1868: 1026) that the skull of *Rhinoceros keitloa* was only known from a figure published by Petrus Camper (1722–1789) in 1782. The same interpretation is found in the *Penny Cyclopaedia*, which account relies heavily on the published work by Smith: "there are in the British Museum stuffed specimens of the three African species above recorded: they were purchased at the sale of the South African Museum" (Anonymous, 1841: 473). Again, no skull is attributed to *Rhinoceros keitloa* in Gray's osteological catalogue of 1862 (only loose horns are listed). Sclater (1876: 656) saw the

Table 14. Records of the rhinoceros relating to the travels of William Cornwallis Harris (§19).

No.	Date	Locality	Coordinates	Type	Species	Source
C19	1836 Oct 14	Molopo River	25°37'S 25°44'E	S	bicornis	Harris, 1841b: 83
C16	1836 Oct 23	Kapain	25°03'S 26°22'E	K	bicornis	Harris, 1839: 97; 1841b: 83
C16	1836 Oct 26	Mariqua River	25°10'S 26°26'E	K	bicornis	Harris, 1839: 127; 1841b: 83
C16	1836 Oct 27	<i>idem</i>	25°10'S 26°26'E	K	bicornis	Harris, 1839: 132; 1841b: 83
C16	1836 Oct 28	<i>idem</i>	25°10'S 26°26'E	K	simum	Harris, 1839: 133; 1841b: 99
C16	1836 Oct 28	Tolaan River	25°17'S 26°40'E	K	simum	Harris, 1839: 135; 1841b: 100
C17	1836 Oct 30	Similkate River	<i>idem</i>	K	simum	Harris, 1839: 145; 1841b: 99
C15	1836 Nov 2	Bagobone River	25°36'S 27°00'E	K	rhino	Harris, 1839: 157
C18	1836 Nov 4	Cashan Mountains	25°56'S 27°12'E	K	simum	Harris, 1839: 161; 1841b: 99
C18	1836 Nov 6	Sant River	25°56'S 27°12'E	K	rhino	Harris, 1839: 165
C11	1836 Nov 10	Oorie River, source	25°44'S 27°50'E	K	simum	Harris, 1839: 182
C11	1836 Nov 19	Machachoan River	25°20'S 27°33'E	S	rhino	Harris, 1839: 194
C27	1836 Nov 27	Limpopo River	24°58'S 27°24'E	K	bicornis	Harris, 1839: 202; 1841b: 84
C20	1836 Dec 20	Vaal River	26°59'S 27°00'E	K	rhino	Harris, 1839: 234

mounted specimens of *Rhinoceros bicornis* and *Rhinoceros keitloa* in "the gallery" of the British Museum and he had drawings made of their heads (Figure 63).

Perhaps the skull of *Rhinoceros keitloa* was in fact hidden inside the hide. Hopwood (1939) examined the only three skulls of *Diceros bicornis* present in the collection of the British Museum, one of which had been obtained by Andrew Smith at Latakoo (Dithakong). If the drawing of the head of *Rhinoceros keitloa* in Sclater (1876, fig. 8) is compared with the photograph of the skull in Hopwood (1939, pl. 10), the shapes and lengths of the horns are identical. Possibly the skull was removed from the hide during the early twentieth century. Another version is given by Blyth (1870), who wrote that "in the stuffed specimen of African *Rhinoceros kheitloa*, in the British Museum, it will be seen that the anterior horn is split or divided towards its tip in a direction transverse to the axis of the body, the cleft having taken place during the life of the animal." There is no indication about this formation of the anterior horn in any of the other sources about the *keitloa* shot for Andrew Smith, while at the same time it seems unlikely that the British Museum had acquired a second specimen by 1870.

John Burrow had been correct in believing that the discovery of *Rhinoceros keitloa* was the zoological highlight of the expedition, easily distinguished by the equal or near-equal length of the two horns. During most of the nineteenth century, the existence of *Rhinoceros keitloa* was commonly accepted by travellers and scientists alike. The approval by Gray, the keeper of the British Museum, must have been influential. Just a few authorities in natural history, Wahlberg was one (§23), voiced doubts about the validity of the species, and it was only towards the end of the nineteenth century that the idea came to prevail that differences in shape and length of rhinoceros horns were an individual variation and not a biologically constant characteristic. Despite this insight, *Rhinoceros keitloa* has weathered the passage of time quite well, being the oldest name for the black rhinoceros in the northern part of South Africa. Today, however, it is supposed to be a synonym of the nominal subspecies *Diceros bicornis bicornis* described from the Western Cape (Groves, 1967). *Rhinoceros keitloa* was first shot and identified by members of the Expedition for Exploring Central Africa on 1 June 1835 near Mosegha (25°47' S, 26°03' E). This locality, 250 km in a straight line from the former position of Latakoo (Dithakong), is the type-locality of *Rhinoceros keitloa* A. Smith, 1836.

19. Harris

North West, Free State, 1836. Table 14, Figures 64–80

Spurred by the promising reports of Andrew Smith about the country surrounding the Magaliesberg, this became the most popular destination for visitors looking for sport or trade. It could be reached relatively easily, either from the Eastern Cape or from Durban, thus avoiding a long journey across the Karoo. Both the black and white rhinoceroses were abundant in the area. Although it is unlikely that the animals were greatly reduced merely by the few people who wrote about their experiences, the excitement about the Magaliesberg lasted only for a few years and the hunting frontier moved further north. While the expedition led by Smith had been primarily driven by scientific and mercantile purposes, between 1836 and 1845 a wide variety of people flocked to the area. Some came as adventurers, or purely for the entertainment of a sporting holiday, others went to collect specimens for museums, while some were looking for trade in ivory and other commodities.

William Cornwallis Harris (1807–1848) was Second Lieutenant in the engineering corps of the East India Company in India from 1825 and was promoted to Captain in 1834 (Le Roux, 1939: 36; Cassada, 1994; Keynes, 2007). Transferred to the Cape of Good Hope for medical reasons, he arrived there on 31 May 1836 and after an expedition into interior, he returned to India at the end of 1837. He made a journey to Ethiopia in 1841–1842, was promoted to Major in 1843 and died in India at Surwur, near Pune, on 9 October 1848.

Soon after his arrival in Cape Town, Harris went to Grahamstown and continued towards the Limpopo River, returning to Graaff-Reinet in January 1837. His travelling companion was William Richardson of the Bombay Civil Service, whom he had met on the voyage from India. There is no doubt that Harris first and foremost hunted for the thrill and excitement of the chase and he made drawings on the spot and measured the animals that fell to his gun. Very few of the details remain, however, as his field notes are lost and his books are a succession of stories about how animals are killed. He supposedly returned with a wagon full of specimens of different kinds, but none of these are known to exist today. It is only recorded that Harris exhibited trophies and drawings resulting from the African trip in the townhall of Bombay (Mumbai) in December 1837: "Our notice has been attracted to a curious collection of skins and exuviae of rare wild animals from the centre of



Figure 64. William Cornwallis Harris. Drawing of the scene later depicted in the frontispiece of the *Wild Sports* of 1841 (Natural History Museum, no. 3).

Africa" (Anonymous, 1838, cf. Keynes, 2007).

Harris was an accomplished artist who made sketches of landscapes and animals during his travels, and several of his watercolours and pencil drawings connected to South Africa and Ethiopia have come to light since 1958. There are no images of the rhinoceros in the collection of sketches by Harris obtained by Quentin Keynes (1921–2003) in 1958 (Keynes, 2004: 193–194; S. Keynes, pers. comm. 2006). A second collection of his art-work, discovered by the grandson of Harris's brother, was donated to the Natural History Museum in London in 1970. Among these 171 drawings, there are 11 with a rhinoceros, including the originals used for the lithographs in Harris's books. One of the sketches shows an Indian rhinoceros and was probably traced from a book, but it is likely that the others

were executed during or after his South African travels (Figures 64, 66, 68, 72–74, 76–79).

After Harris returned to Belgaum in India, an account of his experiences in the South African interior was printed in Bombay during the early months of 1838, the *Narrative of an Expedition into Southern Africa*. This was the first book to appear on the market devoted entirely to big game hunting in Africa. It was well received and after three printings of the first edition in India, a second edition was brought out in 1839 by the London publisher John Murray (1745–1793), with a new title, *The Wild Sports of Southern Africa*, but it was essentially the same text (Hosken & Hosken, 1981). A third edition of 1841, produced in London by the publisher William Pickering (1796–1854), was more splendid and had an additional eighteen lithographic

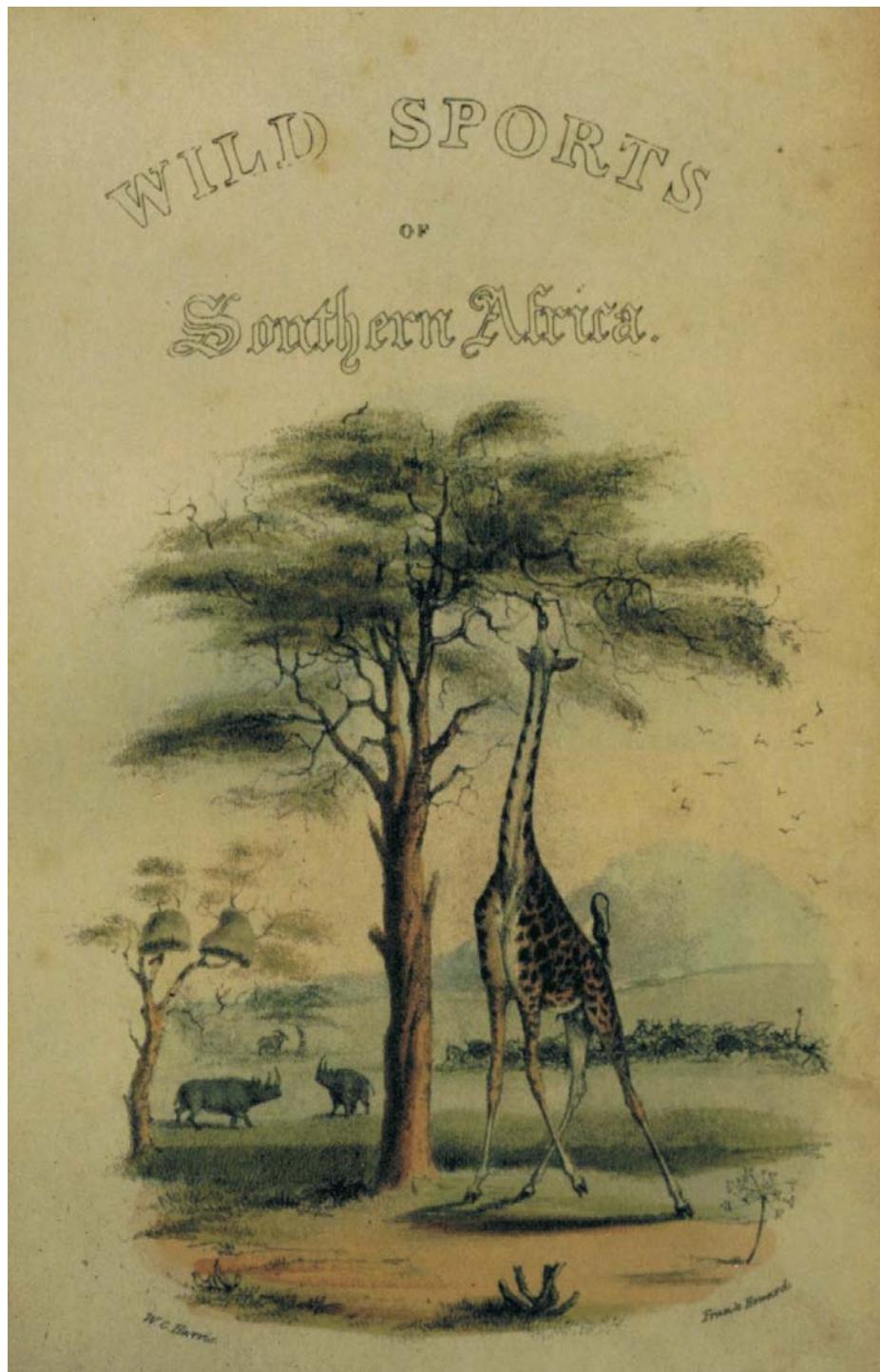


Figure 65. William Cornwallis Harris. African scene with giraffe and two rhinos (*The Wild Sports of Southern Africa*, 1841, frontispiece).

plates (Tabler, 1944; Cassada, 1994). In this edition, representations of the black and white rhinoceros appear for the first time (Harris, 1841a, frontispiece and plates 14, 21; Figures 65, 67, 69). Subsequent editions of 1844 and 1852 have the same plates as the third. From the start, Harris had intended to publish a companion volume of watercolours of the various mammals seen in the African interior and the *Portraits of the Game and Wild Animals of Southern Africa* appeared in five installments, each containing six plates with descriptive text, issued at the end of 1840 and in 1841. This work contained images of the African (black) rhinoceros in part III and of the white rhinoceros in part IV (Harris, 1841b, pls. 16, 19; Figures 75, 80) and they are different from those in Harris (1841a). Line drawings of the horns of each species were added at the conclusion of the

chapters (Harris, 1841b: 85, 101; Figures 70–71). The sketches used to produce the lithographs in various stages of completion are shown in the figures.

The books by Cornwallis Harris were popular in his day, providing easy reading for those who enjoyed hunting stories. However, as a zoological guide they are cumbersome and verbose. His judgement of the black rhinoceros can serve as an example: "he is a swinish, cross-grained, ill-favoured, wallowing brute, with a hide like a rasp, an impudent cock of the chin, a roguish leer out of the corner of his eye, a mud begrimed exterior, and a necklace of ticks and horseflies" (Harris, 1841a: 80). The descriptions provided for the animals are short, although certainly adequate for a general narrative. Harris found both the black and white rhinoceros extremely plentiful



Figure 66. William Cornwallis Harris. White rhinoceros, hand-coloured proof of plate published in 1841 (Natural History Museum, no. 107).

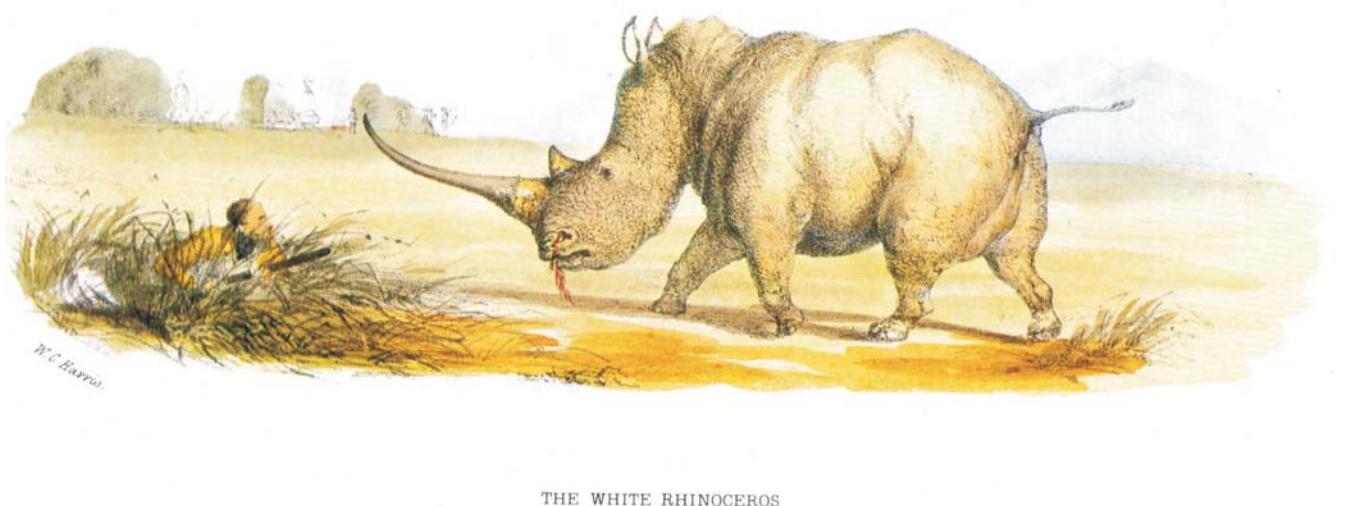


Figure 67. William Cornwallis Harris. "The white rhinoceros. W.C. Harris" (*The Wild Sports of Southern Africa*, 1841, p. 145).



Figure 68. William Cornwallis Harris. Black rhinoceros, hand-coloured proof of plate published in 1841 (Natural History Museum, no. 103).

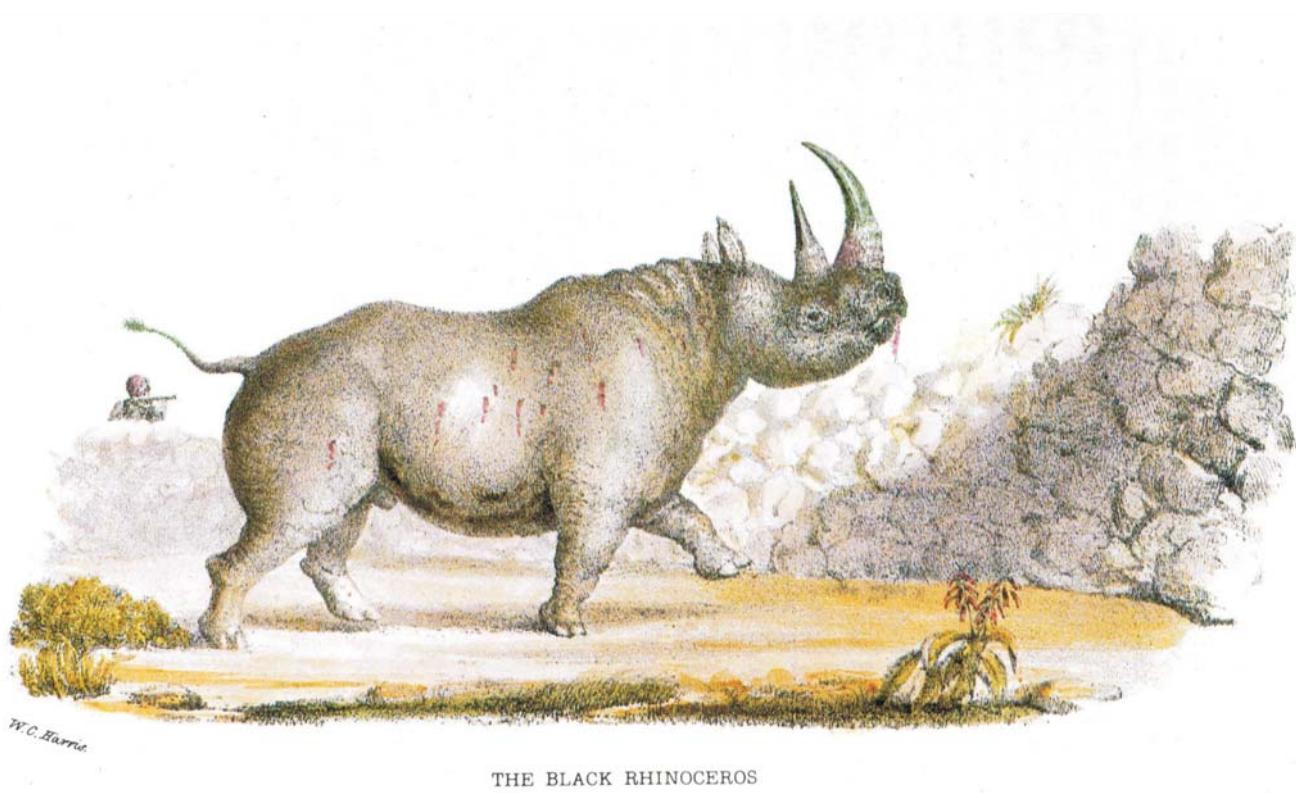


Figure 69. William Cornwallis Harris. "The black rhinoceros. W.C. Harris" (*The Wild Sports of Southern Africa*, 1841, p. 202).



Figure 70. William Cornwallis Harris. "Horns of Rhinoceros Africanus as preserved by Capt^r Harris" (*Portraits of the Game and Wild Animals*, 1841, p. 85).

in the areas near the Limpopo River and the Magaliesberg. When he travelled there in October and November 1836, "it was no uncommon thing to perceive a dozen horned snouts at



Figure 71. William Cornwallis Harris. "The Horns of White Rhinoceros as preserved by Capt^r Harris" (*Portraits of the Game and Wild Animals*, 1841, p. 101).

once from the bushes in the immediate vicinity" (Harris, 1841a: 83). On one occasion going from the banks of the Limpopo River to a hill half a mile distant, 22 white rhinoceroses were counted (Harris, 1841a: 99). This figure was recalled by Andersson (1856: 385), quoting from a letter received from Harris, stating that "on one occasion, whilst walking from the waggons, to bring the head of a koodoo that I had killed about a mile of, I encountered twenty-two rhinoceroses, and had to shoot four of them to clear the way." Even the usually solitary black rhinoceros was said to be gregarious in fives and sixes, and during a single day Harris counted "upwards of sixty" (Harris, 1841a: 82). Harris and his companion killed a large number of them and it is unlikely that the actual spoils of the expedition were limited to the dozen rhinoceroses accounted for in the course of his book. He took at least a few horns with



Figure 72. William Cornwallis Harris. Drawing of "Rhinoceros Africanus. Black Rhinoceros. Inkomfu" (Natural History Museum, no.104).

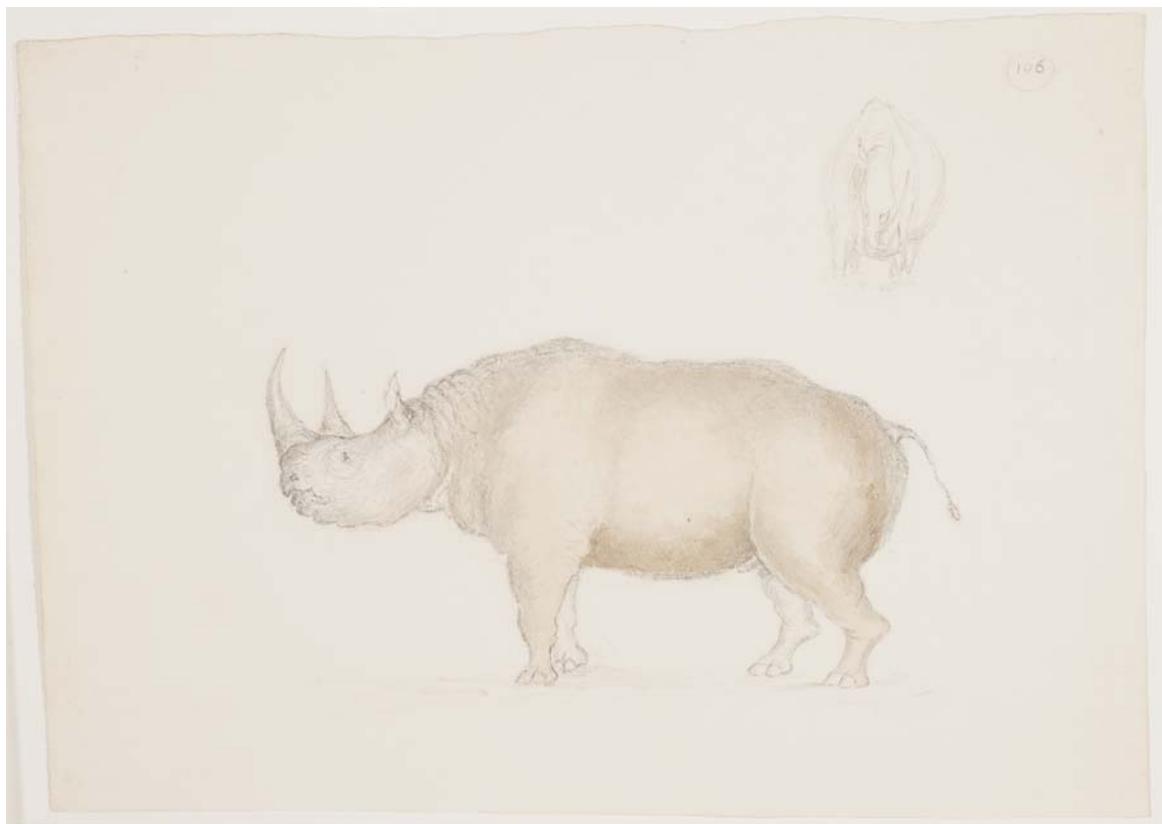


Figure 73. William Cornwallis Harris. Drawing of a black rhinoceros (Natural History Museum, no. 106).

him and it is possible that some are still preserved in an Indian collection.

Harris differentiated two species of rhinoceros, existing sympatrically around the Limpopo River. Unlike others at the time, he did not believe that the shape of horns could be used to identify the different species, stating that "in no two specimens

of this animal which came under my observation were the horns built exactly upon the same model" (Harris, 1841b, text to pl.16). Harris used *Rhinoceros Africanus* and the vernacular "black rhinoceros" for the first species in all his writings, known to the Boers as *Rhinoster* and to the "Matabili" [Mzilikazi's Ndebele] either as *Boreli* (Harris, 1838) or as *Chukuroo* (Harris,

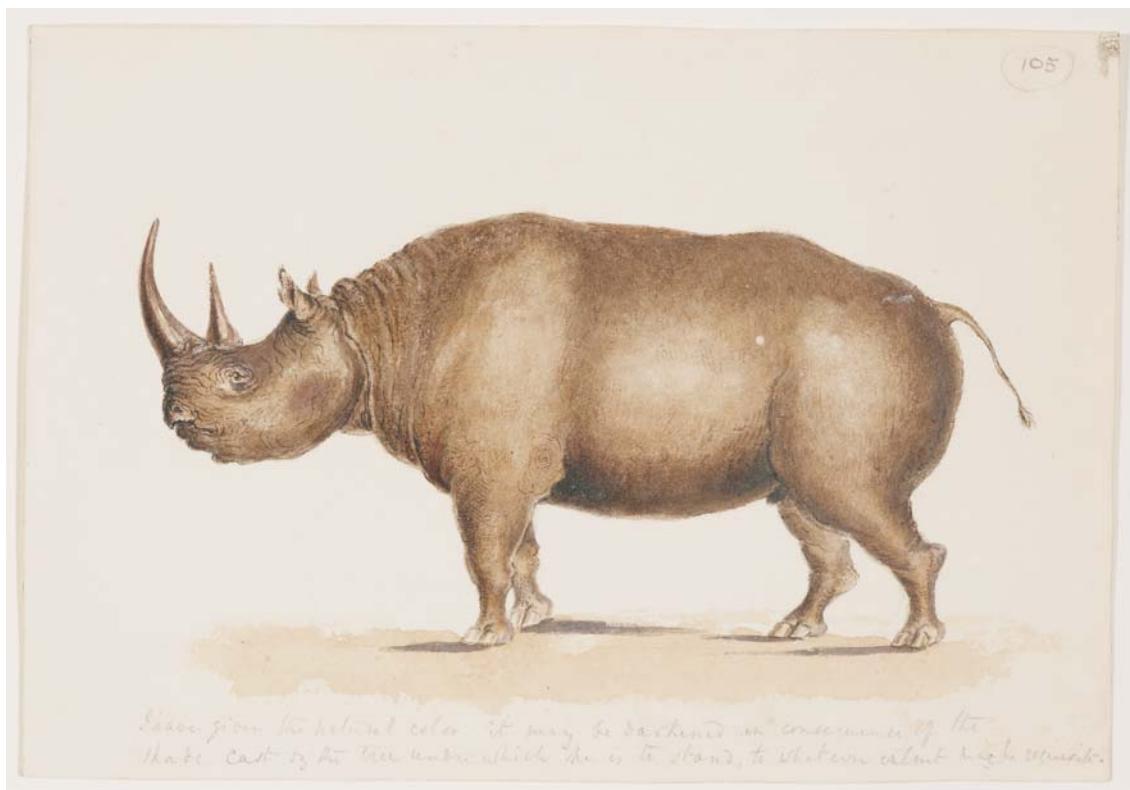


Figure 74. William Cornwallis Harris. Drawing of a black rhinoceros (Natural History Museum, no.105).

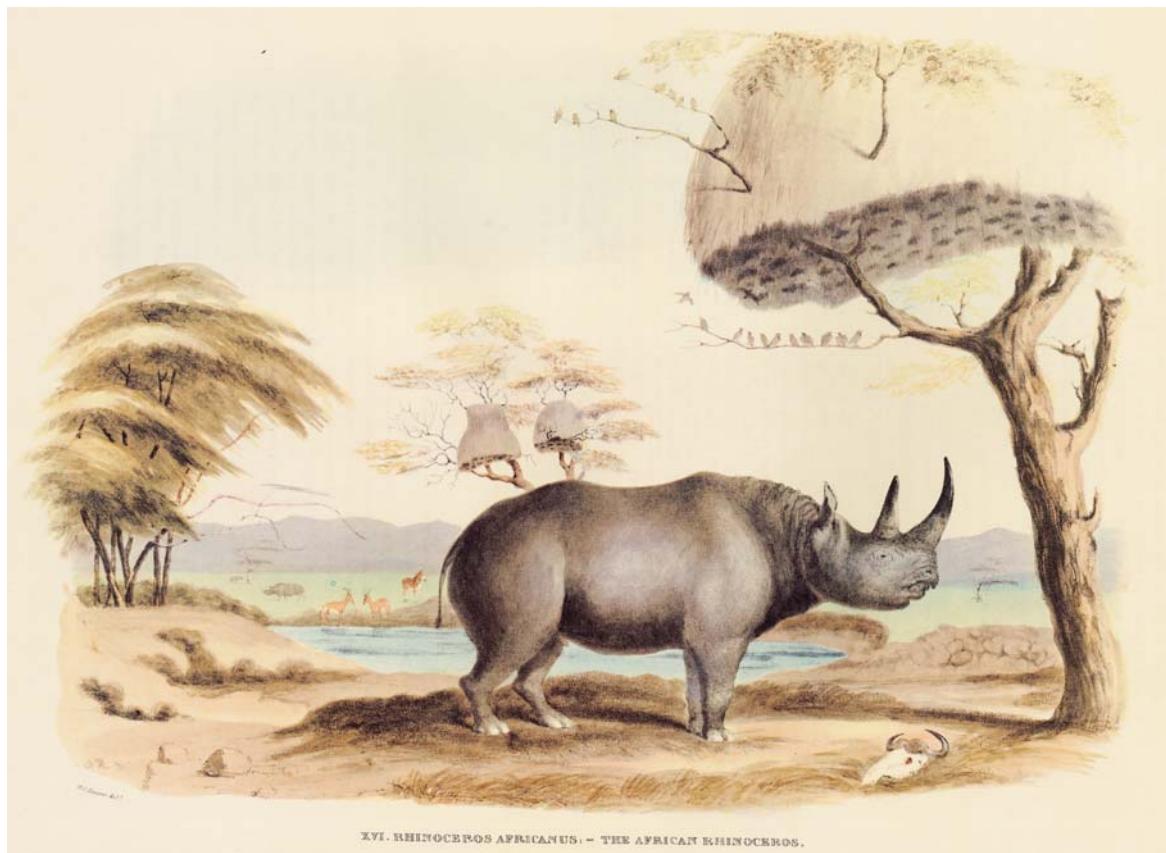


Figure 75. William Cornwallis Harris. "Rhinoceros Africanus - The African Rhinoceros" (*Portraits of the Game and Wild Animals*, 1841, plate 16).



Figure 76. William Cornwallis Harris. Drawing of a white rhinoceros (Natural History Museum, no.110).



Figure 77. William Cornwallis Harris. Front view of white rhinoceros (Natural History Museum, no. 111).



Figure 78. William Cornwallis Harris. Sketch of a white rhinoceros (Natural History Museum, no. 109).



Figure 79. William Cornwallis Harris. White rhinoceros with short posterior horn (Natural History Museum, no. 108).

1841b). For the other species, he used "white rhinoceros" and *Rhinoceros Simus* (Harris, 1841a, 1841b), misspelled *Rhinoceros Sinusus* in Harris (1838), known to the Boers as *Witte Rhinoster* and to the Tswana as *Chikore* or *Mohoohoo*.

The rhinoceros which Harris shot during the final stages of

his journey is the most interesting because of the situation. After crossing the Vaal River at a place near the present Scandinavia Drift (Skead, 1987: 546), the party progressed about three miles southward. They were overtaken by a storm of hail and thunder and found shelter at a neighbouring hill. Harris



Figure 80. William Cornwallis Harris. "Rhinoceros Simus. – The square nosed or white rhinoceros" (*Portraits of the Game and Wild Animals*, 1841, plate 19).

Table 15. Records of the rhinoceros relating to the travels of James E. Alexander (§21).

No.	Date	Locality	Coordinates	Type	Species	Source
E5	1837 Mar 22	Usis Mountain	25°18'S 16°50'E	T	bicornis	Alexander, 1838a, I: 287; 1838b: 12
E5	1837 Mar 22	Kei'us or Grootfontein	25°01'S 16°45'E	H	bicornis	Alexander, 1838a, I: 291
E6	1837 Mar 30	Bull's Mouth Pass	24°07'S 16°22'E	S	bicornis	Alexander, 1838a, I: 299; 1838b: 12
E6	1837 Mar 30	Chuntop	24°07'S 16°25'E	W	bicornis	Alexander, 1838a, I: 300
E6	1837 Mar 30	Chuntop	24°07'S 16°25'E	S	bicornis	Alexander, 1838a, II: 8
E6	1837 Mar 31	Chuntop River	24°07'S 16°25'E	K	bicornis	Alexander, 1838a, II: 11; 1838b: 13
E7	1837 Apr 12	Kuisip or Kuiseb River	23°40'S 15°10'E	S	bicornis	Alexander, 1838a, II: 55
E8	1837 May 13	Humaris River	23°17'S 15°35'E	T	bicornis	Alexander, 1838a, II: 114; 1838b: 16
E8	1837 May 15	Keree Kama	23°25'S 15°48'E	S	bicornis	Alexander, 1838a, II: 120; 1838b: 17
E8	1837 May 16	Onakusis at Numsep	23°20'S 15°50'E	S	bicornis	Alexander, 1838a, II: 122; 1838b: 18
E4	1837 May 18	Kuisip River	23°25'S 16°02'E	S	bicornis	Alexander, 1838a, II: 123
E4	1837 May 18	Abashouap	23°25'S 16°02'E	K	bicornis	Alexander, 1838a, II: 127
E3	1837 May 22	Kobip Mountain	23°18'S 16°24'E	S	bicornis	Alexander, 1838a, II: 149
E3	1837 May 23	Chama River	23°18'S 16°24'E	W	simum	Alexander, 1838a, II: 150
E4	1837 May 24	Niais	23°00'S 16°58'E	S	simum	Alexander, 1838a, II: 174
E4	1837 June 1	Glenely Bath, Rehoboth	23°20'S 17°05'E	K	simum	Alexander, 1838a, II: 188; 1838b: 22
E4	1837 June 4	Tuap River	23°30'S 17°10'E	H	bicornis	Alexander, 1838a, II: 192
E9	1837 June 5	Kukama River	23°50'S 17°10'E	W	bicornis	Alexander, 1838a, II: 193

remembered this spot "from the circumstance of my having there, for the last time, seen and destroyed the rhinoceros" (Harris, 1841a: 234). He did not elaborate.

20. Arbousset and Daumas

Eastern Cape, Lesotho, 1836. Table 7

Although rhinoceros must have occurred, at least sporadically, in the large stretch of land which lies between the Vaal River and Zululand, there is only one record. What is now the Lesotho area was explored in 1836 by Thomas Arbousset (1810–1877) and François Daumas (1812–1871), both serving with the *Société des Missions Evangélique chez les Peuples non-chrétiens à Paris* (Paris Evangelical Missionary Society) founded in 1822. Arbousset (1842: 344) mentioned that there were two species of double-horned rhinoceros in the region, known as the *mogoufou*, relatively large and complacent in temperament, and the *magalé*, said to be smaller, darker and known for its bad temper but he did not elaborate further.

21. Alexander

Namibia, 1837. Table 15, Figures 81–82

On the invitation of the Royal Geographical Society in London, Captain James Edward Alexander (1803–1885) agreed to explore the interior of Africa (Gunn & Codd, 1981: 79; Vedder, 1981: 202). When he arrived at the Cape in 1835, Andrew Smith was ready to set out in a northeasterly direction, so Alexander decided to go northwards instead. He left the Cape on 10 September 1836, landed at Walvis Bay and then made a tour in the southern and central parts of Namibia, west of the Fish River, reaching as far north as the vicinity of Windhoek. He was accompanied by Charles Taylor to help with natural history observations. Alexander returned to the

Cape on 21 September 1837, married the daughter of Charles Cornwallis Michell (1793–1851), the first Surveyor-General of the Cape and civil engineer, and then returned to England. He wrote a report about the expedition for the *Journal of the Royal Geographical Society* (1838b), and this was soon followed by a two-volume illustrated book, *An Expedition of Discovery into the Interior of Africa* (1838a). Alexander (1838a, vol. 2: plate facing p. 275) contains an illustration of the rhinoceros entitled "Bull's Mouth Pass" (Figure 81) engraved by William Heath (1795–1840).

On 21 March 1837, near Maltahöhe in the south of Namibia, Alexander saw his first rhinoceroses. He killed one on 31 March 1837 in the vicinity of the Chuntop River, a female black rhinoceros, measuring 12½ feet (381 cm) in length, with two perfect horns of equal size. The hide was carefully removed and preserved. On cutting up the animal, a foetus was found, which was about the same size as a one-month old pig (Alexander, 1838a, vol. 2: 11). A few months later, Alexander (1838a, vol. 2: 150) saw rhinoceroses of another kind and he referred to them as "white". This animal was first seen on 23 May 1837 at the Chama River, and thereafter in the general region of Rehoboth. The party shot at least one of them, probably many more, but the meat was so much in demand by the local people that the leaders invariably arrived too late at the carcass to secure a trophy. Alexander did not elaborate on the distinction between the two types of rhinoceros. He said that in the black rhinoceros the horns of adults are of equal length, as found in a female shot at Chuntop (Alexander, 1838a, vol. 2: 11). There is no indication in Alexander's book that the animals which he encountered would in any way differ from those already known.

In 1845, a German scientist, Heinrich Rudolf Schinz (1777–1861), compiled all the available information on the mammals of the world. He distinguished three species of rhinoceros from Asia (*Rhinoceros indicus*, *R. sondaicus* and *R. sumatranus*), and no



Figure 81. James E. Alexander. Rhinoceros at Bull's Mouth Pass in Namibia (*An Expedition of Discovery*, volume 1, 1838, plate facing p. 275).

less than five from Africa: *Rhinoceros niger*, *R. camperi*, *R. simus*, *R. keitloa* and *R. cucullatus* (Schinz, 1845). Among the African ones, only one was actually a new species, named *Rhinoceros niger* with a reference to Alexander (1838a). This name may have been no more than a literal translation of the "black rhinoceros" found in Alexander (1838a, vol. 1: 191, 299, vol. 2: 1). Schinz explained that the animal lived in "the interior parts of southern Africa," which is too general an indication to help with determining the locality. The suggestion that the rhinoceros seen by Alexander in Namibia belonged to an unknown species must be attributed to Schinz, but he never provided any characteristics by which the new species could be recognised. *Rhinoceros niger*, not surprisingly, was quickly forgotten and was only in few cases listed as a synonym of *Diceros bicornis* (Rookmaaker, 1983: 58). The name reappeared, however, in 1965 in the classification by Ludwig Zukowsky (1888–1965) to distinguish the extinct black rhinoceros of southern Namibia, as *Diceros bicornis niger* (Schinz, 1845). Schwarz (1920: 871) correctly restricted the type locality to Chuntop, near Mt Mitchell, Kuiseb Mountains, which was followed in later lists of

synonyms and classifications of the black rhinoceros, even when *R. niger* itself was not accepted as a valid taxon.

Alexander returned to England with a collection of animal specimens which was catalogued by William Ogilby (1807–1873), Secretary of the Zoological Society of London 1839–1846. Ogilby (in Alexander, 1838a: 260, 1838b: 27) enumerated two species of rhinoceros:

21. *Rhinoceros Africanus* (Desmarest)
22. *Rhinoceros Simus* ? (Burchell) an imperfect skull.

The specimen of the black rhinoceros (Ogilby's *Rhinoceros africanus*) is not specified. The foetus found inside the female at Chuntop may not have been preserved and the fate of these specimens is unknown. Some plants collected by Alexander's expedition were presented to the University of Cambridge (Gunn & Codd, 1981: 79), but the animals are not in the same institution. There is only one tentative clue: a skull of a black rhinoceros in the Senckenberg Museum in Frankfurt am Main, Germany, no. SMF 699 (Figure 82), incomplete, lacking the nasals, the intermaxillaries and the first lower premolar on the right side (Zukowsky, 1965: 27, fig. 8; D. Kock, *in litt.* 2000). Zukowsky (1965) supposed that it was commissioned from the Cape of Good Hope in 1840 by Eduard Rüppell, who helped to extend to collections of the museum after its inception (Mertens, 1949). However, the provenance of the skull is explained in a catalogue of the museum by Rüppell (1842: 52), where it is listed as: "XI.G.3 – *Rhinoceros africanus*, F. Cuv. Cr. [Cranium] Geschenk des Herrn Ogilby." As it was donated by William Ogilby, the skull probably came from London, but if there was a connection with Alexander it has, unfortunately, been lost. Should the remains of the rhinoceroses collected by Alexander ever to be found again, they would represent some of the very few pertaining to the rhinoceros of southern Namibia.

22. Delegorgue

KwaZulu-Natal, North West, 1841–1844. Table 16, Figures 83–84

The French collector Adulphe Delegorgue (1814–1850) spent six years in South Africa, from 1838 to 1844 (Tabler, 1977: 28). He

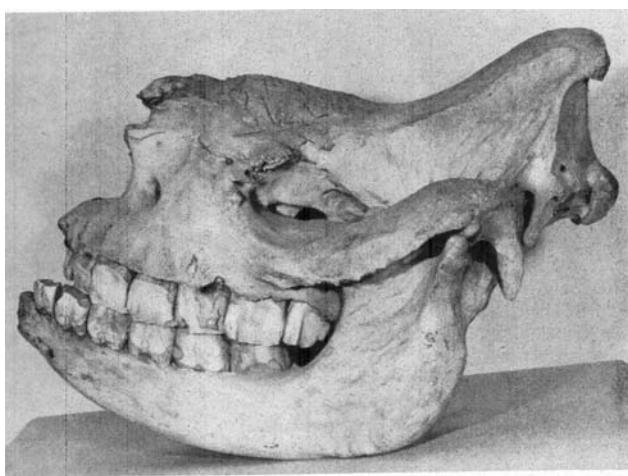


Figure 82. Skull of *Diceros bicornis* donated by Ogilby to the Museum of the Senckenbergische Naturforschende Gesellschaft in Frankfurt am Main (no. 699).

Table 16. Records of the rhinoceros relating to the travels of Adulphe Delegorgue (§22).

No.	Date	Locality	Coordinates	Type	Species	Source
Zululand						
D1	1841 Nov 11	Om-Philos-Om-Schlopu	28°24'S 31°57'E	H	simum	Delegorgue, 1847, I: 362, 1990: 179
D1	1841 Nov 15	<i>idem</i>	<i>idem</i>	K	simum	Delegorgue, 1847, I: 368, 1990: 181
D1	1841 Nov 21	<i>idem</i>	<i>idem</i>	S	simum	Delegorgue, 1847, I: 372, 1990: 184
D1	1841 Dec 27	Om-Pholozie	<i>idem</i>	K	simum	Delegorgue, 1847, I: 435, 1990: 218
D1	1842 Jan 15	Kos Mountain	<i>idem</i>	S	rhino	Delegorgue, 1847, I: 493, 1990: 247
D3	1842 Apr 6	Om-Kouzi	27°38'S 31°37'E	S	simum	Delegorgue, 1847, II: 34, 1997: 14
D1	1842 Aug	Om-Philos River	28°24'S 31°57'E	K	simum	Delegorgue, 1847, II: 191, 1997: 100
D1	1842 Aug	<i>idem</i>	<i>idem</i>	K	simum	Delegorgue, 1847, II: 193, 1997: 101
D2	1842 Dec 30	Om-Vooty's Poort	29°19'S 31°13'E	T	rhino	Delegorgue, 1847, II: 345, 1997: 134
Caffraria						
C30	1843 June	Sloane River	25°30'S 27°22'E	K	bicornis	Delegorgue, 1847, II: 346, 1997: 177
C11	1843 June	Dassenkop	25°22'S 26°28'E	K	simum	Delegorgue, 1847, II: 361, 1997: 185
C26	1843 June	Oury River	25°09'S 27°34'E	K	bicornis	Delegorgue, 1847, II: 380, 1997: 195
C26	1843 June	Ourityle River	<i>idem</i>	K	rhino	Delegorgue, 1847, II: 384, 1997: 197
C26	1843 June	<i>idem</i>	<i>idem</i>	K	rhino	Delegorgue, 1847, II: 401, 1997: 205
C25	1843 Oct 15	Pilanne's Camp	25°12'S 27°07'E	K	bicornis	Delegorgue, 1847, II: 416, 1997: 212
C27	1843 Nov	Makaschlas Country	24°51'S 27°15'E	K	simum	Delegorgue, 1847, II: 448, 1997: 227
C28	1843 Nov	Makoha River	24°40'S 27°26'E	K	rhino	Delegorgue, 1847, II: 450, 1997: 228
C29	1844 Feb 13	Om-Schlabatzi River	24°01'S 26°22'E	K	rhino	Delegorgue, 1847, II: 521, 1997: 252
C11	1844 Feb 18	Oury River	23°59'S 26°59'E	W	bicornis	Delegorgue, 1847, II: 527, 1997: 264
C11	1844 Feb 19	<i>idem</i>	<i>idem</i>	K	simum	Delegorgue, 1847, II: 553, 1997: 267

spent most of this time in a small house on the White Umfolozi River in the present KwaZulu-Natal, but he undertook a long journey to the "Land of Massilicatzi" (Mzilikazi, chief of the Ndebele) near the Limpopo River from 22 May 1843 to April 1844. After his return to France, he published his experiences in *Voyage dans l'Afrique Australe* in 1847, which has been translated into English and edited with notes and an index (Delegorgue, 1990, 1997). The book was meant for easy reading, and despite its wordiness, there are very few particulars about the animals seen or shot. There is, however, a "monograph" on the rhinoceros in the second volume (Delegorgue, 1847, vol. 2: 420–433, 1997: 214–219). The illustrations, after sketches by the author, are not particularly remarkable and one plate shows the head of a rhinoceros next to that of a warthog (Delegorgue, 1847, vol. 1: plate facing p. 528; Figure 83).

Delegorgue saw the white rhinoceros in Zululand and both the black and white species near the Limpopo River. In discussing the distribution of rhinoceroses generally, he noted that they were then absent from regions in which they had previ-

ously been seen by Anders Sparrman, i.e., in the Eastern Cape in 1775 (Rookmaaker, 1989: 144, 285). He also remarked, notably, that the rhinoceros would have been depleted from the lands of the "Ama-Kosa Cafres" (the Xhosa of the Kokstad region of the Eastern Cape), of the Ama-Pondos (southern KwaZulu-Natal) and in the colony of Natal itself. And on the banks of the White Umfolozi River, where Delegorgue resided for many months, he said that only the white rhinoceros would be known: "although the Amazoulou country provides a suitable habitat, the genus *Rhinoceros* is only represented there by the species *Rhinoceros simus*, which has been described by the learned and brave English naturalist, Burchell" (Delegorgue, 1847, vol. 2: 420, 1997: 214). There are two remarkable – and surprising – comments. The first is the implied absence of the black rhinoceros from Zululand, while the other is the record of rhinoceros tracks at "Om Vooty's Poort" [Umvoti River] on 30 December 1842, in a coastal forest just north of Durban, which remains the only report of rhinoceroses south of the Tugela River.

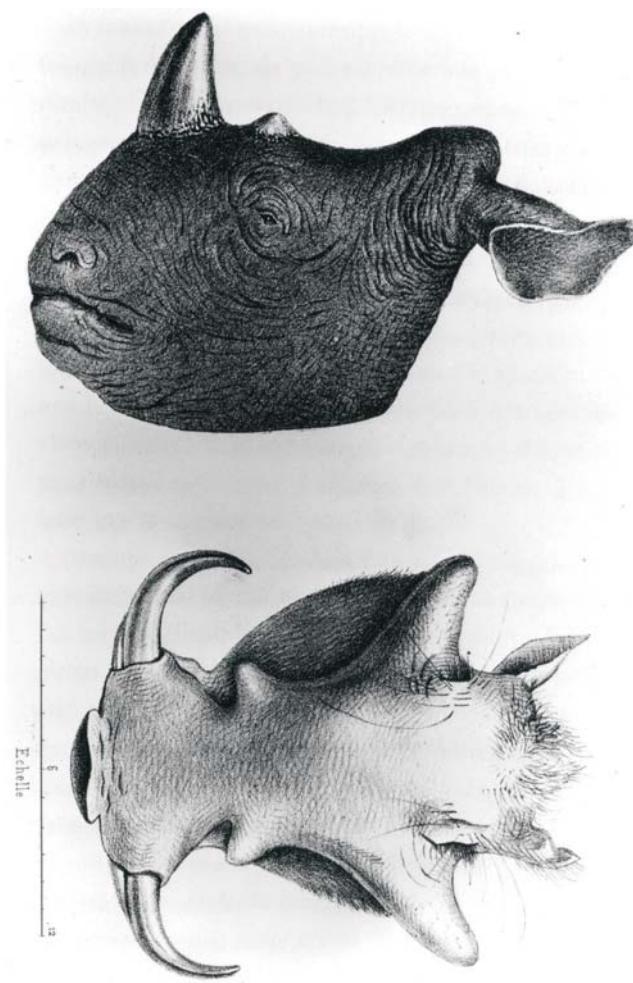


Figure 83. Adulphe Delegorgue. Heads of a rhinoceros and a warthog (*Voyage dans l'Afrique australe*, volume 1, 1847, plate facing p. 528).

Delegorgue shot four rhinoceroses in Zululand and a total of 56 on his journey to the "Land of Massilicatz" (Delegorgue, 1847, vol. 1: 481, 1990: 241). Generally, he was only after the meat, but in a few cases he records preserving parts of the rhinoceros to take back to France, including a skin of a white rhinoceros killed in Zululand in November 1841 (Delegorgue, 1847, vol. 1: 368, 1990: 181), a skeleton of a female white rhinoceros killed on the White Umfolozi River in August 1842 (Delegorgue, 1847, vol. 2: 191, 1997: 100) and the head of a black rhinoceros shot on the "Oury" [the Oori or Limpopo/Crocodile] River in June 1843 (Delegorgue, 1847, vol. 2: 380, 1997: 195). Soon after his return to France, he donated the skeleton of the female white rhinoceros obtained in August 1842 to the Museum of Natural History in Paris. It was installed in the Gallery of Comparative Anatomy, where its presence was noted by Blainville (1846a: 4), Chenu (1858: 10) and more recently by Renshaw (1904: 144, with label reading "Ed. Verreaux, 1846"). Strangely enough, the other two specimens are not mentioned again, and it may be that they decayed despite the trouble that Delegorgue took to dry them properly.

Delegorgue was fond of rhinoceros meat, especially that of white ones, to the extent that, in November 1843, he decided to shoot one daily for the pot (Delegorgue, 1847, vol. 2: 448, 1997: 227). He was not the only one to kill these animals as provisions for the large retinue of the expeditions. Most local Africans were said to be partial to this food (*cf.* Lichtenstein, 1811: 154; Smith, 1837; Harris, 1841a: 133), except the Zulus who, accord-

ing to Delegorgue (1847, vol. 1: 573, 1990: 286) refused the meat of elephant and rhinoceros, a custom which was almost as binding as a law. It was said that the meat of the black rhinoceros had a bitter and acrid flavour and was far less fatty than that of the white species, and it was consequently not as sought-after by whites. By contrast, the fat and meat of the white rhinoceros was considered to be a delicacy (Delegorgue, 1847, vol. 1: 366, 1990: 379; Andersson, 1856: 395). Chapman describes how pieces of meat, after being seasoned with pepper and salt, were sometimes put on a spit and broiled over an open fire, (Chapman, 1971: 45), but it was more common to place coals in a hole in the ground, like an oven, and bake the meat overnight. Campbell (1822a, vol. 1: 205) preferred to use a termite mound, which was "excavated by the people early in the morning, and their innumerable population destroyed. The space thus obtained was filled with lighted fuel, till the bottom and side became red hot within. The embers of the wood were then removed, the leg or foot of the rhinoceros introduced, and the door closed up with heated clay and embers. Fire was also made on the outside over the nests, and the flesh was allowed to remain in it for several hours." The hump of the white rhinoceros thus baked during the night apparently becomes tender as jelly, and early travellers pronounced it delicious, fit to grace a king's table (Chapman, 1971: 45, 69). Galton (1853: 275) preferred it to the flesh of any other animal, especially if it was young, rolled in a piece of spare hide and baked in the earth. It was not only the meat that was consumed, even the hide, after being beaten with stones and cooked in the fire, was – they said – not at all bad to chew (Galton, 1853: 269). Other favoured delicacies from a rhinoceros included the tongue and marrow bone, the heart and liver (Chapman, 1971: 45; Thomas, 1872: 104). Rhinoceros meat tasted like pork and, when salted, could be used instead of bacon, accompanied by cabbage and potatoes (Thomas, 1872: 104).

Delegorgue included an account of his journey to the "Land of Massilicatz" in 1843–1844 in his *Voyage* (1847). A remarkable feature of this book is a map inserted at the end of the second volume (Figure 84) that shows in detail where he hunted different species of mammals. Five species of rhinoceros are listed in the legend to the map. The black rhinoceros, called *Rhinoceros africanus bicornis*, or *chokourou makaley* by the Makaschlas [the Bakgatla of Chief Pilane], is noted in eight locations, and the white rhinoceros (*Rhinoceros Simus*) in 15, three of which were near the Limpopo River, beyond the extent of his own travels. Delegorgue furthermore attested to the presence of *Rhinoceros Quetloha* (surely his spelling of the *Keitloa* of Andrew Smith?) in two locations near the confluence of the Marico and Crocodile Rivers. He never saw one himself, because he never reached this particular area, but it is probable that he received this information personally from Johan Wahlberg (§23). The fourth species, *Rhinoceros unicornis*, is absent from the map itself and we can only surmise why Delegorgue introduced the name of an Asian animal. Delegorgue (1847) provided no local name for the white rhinoceros, but when he returned to France he mentioned to Blainville in Paris that it was called *mocouf* (Blainville, 1846a: 74, followed by Chenu, 1858: 10).

On his hunting map, Delegorgue's fifth species was called *Rhinoceros lelongouanne*, living in the Country of "Queen Mammasetchij" (located in southern Mpumalanga in his map). There is no explanation on the map or in the text of the book where the name originated or what the animal was supposed to look like. The information about this species apparently came from a Boer hunter whom Delegorgue met on the banks of the Sloane [Selons] River (Delegorgue, 1847, vol. 2: 402, 1997:

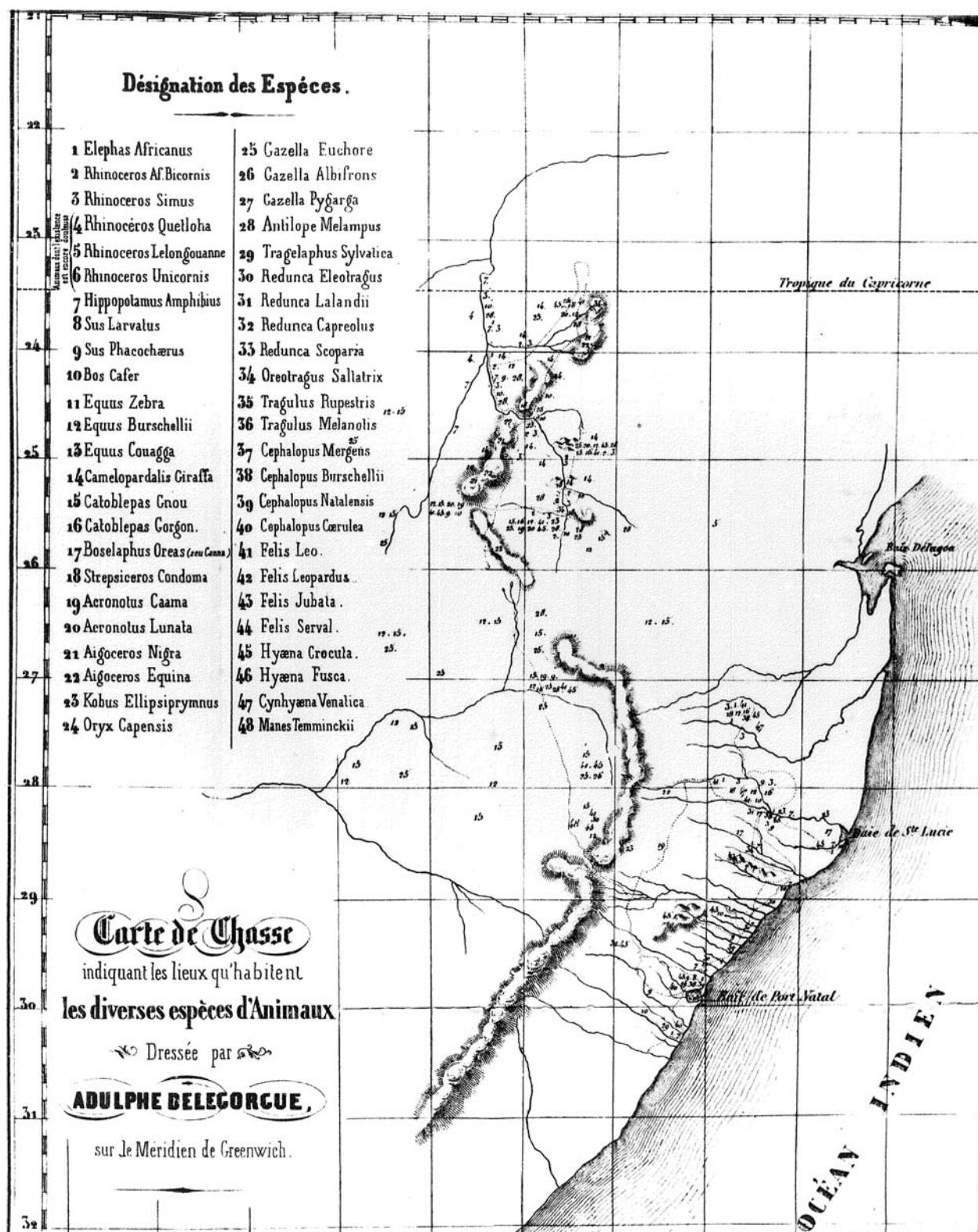


Figure 84. Adulphe Delegorgue. Hunting map showing the places inhabited by the various species of animals (*Voyage dans l'Afrique australe*, volume 2, 1847, inserted map).

207). In the absence of further details, we may never know what Delegorgue had in mind when he included this fifth kind of rhinoceros. Blainville (1846a: 74) mentioned it in the vernacular as the *lelongouanne* and Chenu (1858: 10) incorrectly as the *lelongonaum*. The name *Rhinoceros lelongouanne* Delegorgue, 1847 is a *nomen nudum*, because it was proposed without any form of description. The fact that this name appeared only twice more in the zoological literature – absent even from the

longest lists of synonyms – tells us something about the limited reception of Delegorgue's book.

23. Wahlberg

KwaZulu-Natal, North West, Botswana, 1841–1855.

Tables 17–18, Figures 85–86

In 1837 Johan August Wahlberg (1810–1856) was chosen by

Table 17. Records of the rhinoceros relating to the travels of Johann Wahlberg (§23).

No.	Date	Locality	Coordinates	Type	Species	Source
Transvaal, October 1841 to August 1842						
C21	1841 Nov 15	Makhaliasberg Poort	25°42'S 27°50'E	T	rhino	Wahlberg, 1994: 68
C21	1841 Nov 19	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 69
C21	1842 Jan 20	Crocodile River	<i>idem</i>	S	rhino	Wahlberg, 1994: 76
C23	1842 Jan 22	Apies River	25°28'S 28°15'E	K	rhino	Wahlberg, 1994: 77
C23	1842 Feb 1	<i>idem</i>	<i>idem</i>	S	rhino	Wahlberg, 1994: 77
C23	1842 Feb 13	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 77
C23	1842 Feb 13	<i>idem</i>	<i>idem</i>	S	simum	Wahlberg, 1994: 77
C23	1842 Feb 20	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 78
C23	1842 Mar 2	<i>idem</i>	<i>idem</i>	S	rhino	Wahlberg, 1994: 78
C24	1842 Mar 5	Soutpan	25°24'S 28°06'E	K	simum	Wahlberg, 1994: 79
C24	1842 Mar 9	<i>idem</i>	<i>idem</i>	S	rhino	Wahlberg, 1994: 79
C24	1842 Mar 11	<i>idem</i>	<i>idem</i>	S	rhino	Wahlberg, 1994: 80
C24	1842 Mar 12	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 80
C18	1842 Apr 30	Olifantsnek	25°46'S 27°17'E	H	rhino	Wahlberg, 1994: 82
Zululand, August 1842 to November 1842						
D1	1842 Sep 14	White Umfolozi	28°24'S 31°57'E	K	rhino	Wahlberg, 1994: 90 (rhino killed by Delegorgue)
D1	1842 Sep 24	Confluence of Umfolozi rivers	<i>idem</i>	S	rhino	Wahlberg, 1994: 90
D1	1842 Sep 25	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 90
D1	1842 Sep 28	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 92
Transvaal, July 1843 to November 1844						
C30	1843 Oct 1	Matlapini's Berg	25°37'S 27°13'E	W	rhino	Wahlberg, 1994: 110
C30	1843 Oct 4	<i>idem</i>	<i>idem</i>	K	rhino	Wahlberg, 1994: 110
C25	1843 Oct 9	Leroma Mountain	25°12'S 27°07'E	K	bicornis	Wahlberg, 1994: 111
C25	1843 Oct 11	<i>idem</i>	<i>idem</i>	S	keitloa	Wahlberg, 1994: 111
C25	1843 Dec 28	Pilaansberg	25°12'S 27°07'E	K	bicornis	Wahlberg, 1994: 115
				K	simum	
C36	1844 Feb 9	Crocodile–Marico River	24°17'S 26°53'E	S	bicornis	Wahlberg, 1994: 118
C36	1844 Feb 10	<i>idem</i>	<i>idem</i>	S	simum	Wahlberg, 1994: 118
C35	1844 Feb 13	Marico River	24°30'S 26°35'E	S	rhino	Wahlberg, 1994: 119
C35	1844 Feb 17	<i>idem</i>	<i>idem</i>	T	rhino	Wahlberg, 1994: 120
C35	1844 Feb 20	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 120
C35	1844 Feb 22	<i>idem</i>	<i>idem</i>	S	rhino	Wahlberg, 1994: 122
C35	1844 Mar 1	<i>idem</i>	<i>idem</i>	W	rhino	Wahlberg, 1994: 122
F3	1844 Mar 3	Limpopo River	24°09'S 26°50'E	K	bicornis	Wahlberg, 1994: 123
F3	1844 Mar 7	Limpopo River	23°54'S 26°52'E	S	rhino	Wahlberg, 1994: 124
F4	1844 Mar 12	Notwane River	<i>idem</i>	S	rhino	Wahlberg, 1994: 125
F4	1844 Mar 18	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 125
C27	1844 Mar 29	Spitskop	24°56'S 27°05'E	K	simum	Wahlberg, 1994: 127
C27	1844 Mar 30	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 127
C27	1844 Mar 31	<i>idem</i>	<i>idem</i>	S	rhino	Wahlberg, 1994: 127
C27	1844 Apr 2	<i>idem</i>	<i>idem</i>	K	rhino	Wahlberg, 1994: 127
C27	1844 Apr 4	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 127
C27	1844 Apr 9	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 128
C27	1844 Apr 11	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 128
C27	1844 Apr 12	<i>idem</i>	<i>idem</i>	S	bicornis	Wahlberg, 1994: 128
C27	1844 Apr 13	<i>idem</i>	<i>idem</i>	W	bicornis	Wahlberg, 1994: 128
C27	1844 Apr 15	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 129
C27	1844 Apr 18	<i>idem</i>	<i>idem</i>	W	rhino	Wahlberg, 1994: 129
C27	1844 Apr 19	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 129
C27	1844 Apr 21	<i>idem</i>	<i>idem</i>	W	rhino	Wahlberg, 1994: 129
C11	1844 May 16	Crocodile River	25°21'S 27°33'E	K	simum	Wahlberg, 1994: 131
C37	1844 May 23	Moretele River	25°06'S 27°46'E	K	simum	Wahlberg, 1994: 132
C37	1844 May 24	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 132
C37	1844 May 27	Injaka's Kraal	<i>idem</i>	K	simum	Wahlberg, 1994: 132

Continued on p. 112

Table 17 (continued)

No.	Date	Locality	Coordinates	Type	Species	Source
C25	1844 June 18	Leroma	25°09'S 27°17'E	S	bicornis	Wahlberg, 1994: 133
C25	1844 June 19	<i>idem</i>	<i>idem</i>	K	rhino	Wahlberg, 1994: 133
C25	1844 June 24	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 133
C25	1844 June 26	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 133
C25	1844 June 27	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 133
C25	1844 June 29	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 133
C25	1844 June 30	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 133
C32	1844 Aug 19	Makallakoane	24°45'S 28°21'E	W	keitloa	Wahlberg, 1994: 137
C32	1844 Aug 22	<i>idem</i>	<i>idem</i>	W	simum	Wahlberg, 1994: 138
C33	1844 Aug 26	Muzi River	25°09'S 28°25'E	S	rhino	Wahlberg, 1994: 138
C33	1844 Aug 27	Lake Masoba	25°09'S 28°25'E	S	rhino	Wahlberg, 1994: 138
C33	1844 Sep	Muzi River	<i>idem</i>	K	simum	Wahlberg, 1994: 139
C38	1844 Sep 2	Source of Muzi River	25°25'S 28°47'E	K	rhino	Wahlberg, 1994: 139
C38	1844 Sep 3	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 139
C38	1844 Sep 5	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 140
				K	simum	
C38	1844 Sep 6	Muzi River	25°25'S 28°47'E	K	simum	Wahlberg, 1994: 140
C38	1844 Sep 7	<i>idem</i>	<i>idem</i>	K	bicornis	Wahlberg, 1994: 140
C31	1844 Sep 11	Umslabazi River	25°57'S 29°17'E	K	simum	Wahlberg, 1994: 142
C31	1844 Sep 25	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 142
C33	1844 Sep 30	Lake Masoba	25°09'S 28°25'E	K	simum	Wahlberg, 1994: 143
C33	1844 Oct 2	<i>idem</i>	<i>idem</i>	K	rhino	Wahlberg, 1994: 143
C33	1844 Oct 3	<i>idem</i>	<i>idem</i>	K	keitloa	Wahlberg, 1994: 143
Lake Ngami, May 1855 – February 1856						
F24	1855 June 17	Lake Ngami	20°35'S 22°25'E	S	rhino	Wahlberg, 1994: 163
F24	1855 June 19	<i>idem</i>	<i>idem</i>	K	rhino	Wahlberg, 1994: 163
F24	1855 June 23	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 163
F24	1855 June 24	<i>idem</i>	<i>idem</i>	W	bicornis	Wahlberg, 1994: 164
F30	1855 July 1	along Taokhe River	18°40'S 22°10'E	W	rhino	Wahlberg, 1994: 165
F30	1855 July 8	<i>idem</i>	<i>idem</i>	S	bicornis	Wahlberg, 1994: 166
F30	1855 July 11	<i>idem</i>	<i>idem</i>	W	rhino	Wahlberg, 1994: 167
F30	1855 July 13	<i>idem</i>	<i>idem</i>	S	bicornis	Wahlberg, 1994: 167
F30	1855 July 18	<i>idem</i>	<i>idem</i>	S	simum	Wahlberg, 1994: 168
F30	1855 July 19	<i>idem</i>	<i>idem</i>	K	rhino	Wahlberg, 1994: 168
F30	1855 July 20	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 168
F30	1855 July 23	<i>idem</i>	<i>idem</i>	S	bicornis	Wahlberg, 1994: 169
F30	1855 Aug 2	<i>idem</i>	<i>idem</i>	S	bicornis	Wahlberg, 1994: 171
F30	1855 Aug 4	<i>idem</i>	<i>idem</i>	S	rhino	Wahlberg, 1994: 172
F30	1855 Aug 28	<i>idem</i>	<i>idem</i>	W	rhino	Wahlberg, 1994: 180
F30	1855 Aug 30	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 181
F30	1855 Sep 6	<i>idem</i>	<i>idem</i>	W	simum	Wahlberg, 1994: 182
F30	1855 Sep 9	<i>idem</i>	<i>idem</i>	K	rhino	Wahlberg, 1994: 183
F30	1855 Sep 13	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 185
F30	1855 Sep 19	<i>idem</i>	<i>idem</i>	S	bicornis	Wahlberg, 1994: 186
F30	1855 Oct 8	<i>idem</i>	<i>idem</i>	W	simum	Wahlberg, 1994: 190
F30	1855 Oct 18	<i>idem</i>	<i>idem</i>	W	rhino	Wahlberg, 1994: 192
F30	1855 Oct 21	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 192
F30	1855 Oct 24	<i>idem</i>	<i>idem</i>	K	simum	Wahlberg, 1994: 192
F26	1855 Dec 7	Botletle – Tamalakane	20°10'S 23°21'E	T	rhino	Wahlberg, 1994: 199
F26	1855 Dec 11	<i>idem</i>	<i>idem</i>	T	rhino	Wahlberg, 1994: 199
F26	1855 Dec 17	<i>idem</i>	<i>idem</i>	K	rhino	Wahlberg, 1994: 200
F20	1856 Feb 6	Masenassa Plain	20°15'S 25°15'E	T	rhino	Wahlberg, 1994: 208
F20	1856 Feb 8	<i>idem</i>	<i>idem</i>	T	bicornis	Wahlberg, 1994: 209
F20	1856 Feb 15	<i>idem</i>	<i>idem</i>	S	bicornis	Wahlberg, 1994: 209
F20	1856 Feb 18	<i>idem</i>	<i>idem</i>	S	rhino	Wahlberg, 1994: 210
F20	1856 Feb 21	<i>idem</i>	<i>idem</i>	S	rhino	Wahlberg, 1994: 211

Table 18. Names of the rhinoceros in South Africa recorded by Wahlberg 1839–1845.

Species	Language	Vernacular Name	Source
Black	Mantatees	Pechan Patjan	Wahlberg 1994: 71
Black	Mantatees	Mahahu	Wahlberg 1994: 71
Black	Basuto	Keitloa	Wahlberg 1994: 111, 137
Black	?	Pekan	Wahlberg 1994: 118
Black	?	Pasatjan	Wahlberg 1994: 127
White	Mantatees	Tjagula	Wahlberg 1994: 71
White	Lake Ngami	Kobaka (long, slender horns)	Wahlberg 1994: 163

Note: The editors of Wahlberg (1994: 138) suggest that the names Epiova, Epivoor, Epikoa might be other names for the rhinoceros. Certainly these names have not been used elsewhere to describe some kind of rhinoceros.

the Swedish Academy of Sciences to travel to South Africa (Geffroy, 1857; Gyldenstolpe, 1934; Grönberg, 1951; Tabler, 1977: 100; Gunn & Codd, 1981: 366; Johansson, 2006), the purpose being to collect animals and plants for the Swedish Museum of Natural History in Stockholm. After briefly visiting England in July 1838, Wahlberg arrived at the Cape on 2 February 1839, selecting Durban as his base from 11 June 1839. On the vessel between Cape Town and Durban he became acquainted with Adulphe Delegorgue (§22) and Christian Krauss (1812–1890), who was collecting for the museum in Stuttgart. Wahlberg stayed for almost five years in what is now the province of KwaZulu-Natal, making two excursions to Zululand. He also undertook two major expeditions to "Caffraria" (the highveld area north of Pretoria) from October 1841 to June 1842 and from June 1843 to December 1844. He was back in Stockholm on 12 August 1845. Ten years later, from 1855 to 1856, he returned to Africa, this time travelling from Walvis Bay on the Namibian coast to the area around Lake Ngami, where he was

killed on 6 March 1856 by a rogue elephant.

Wahlberg was a collector *par excellence*. It has been estimated that the number of specimens added to the Museum in Stockholm through his endeavours was 533 mammals, 2527 birds, 480 reptiles and amphibians, 5000 insects, besides marine animals and plants (Brinck, 1955). Although he never published a book about his adventures, Wahlberg did maintain a journal, and this is preserved in the library of the Royal Academy of Sciences in Stockholm and it was recently edited and translated (Wahlberg, 1994). It is a pity that it contains so few details about the impressive number of specimens which he collected. We know, however, that together with his companions, he killed at least 60 rhinoceroses in Caffraria, a few in Zululand and about 10 near Lake Ngami. Most of these were consumed, but a few were preserved. On 30 June 1844 near the Pilanesberg, a hide of a black rhinoceros was prepared and dried. On 3 October 1844 at Masuba Lake (near the Elands River), a *Keitloa* was killed and its head was cut off. When

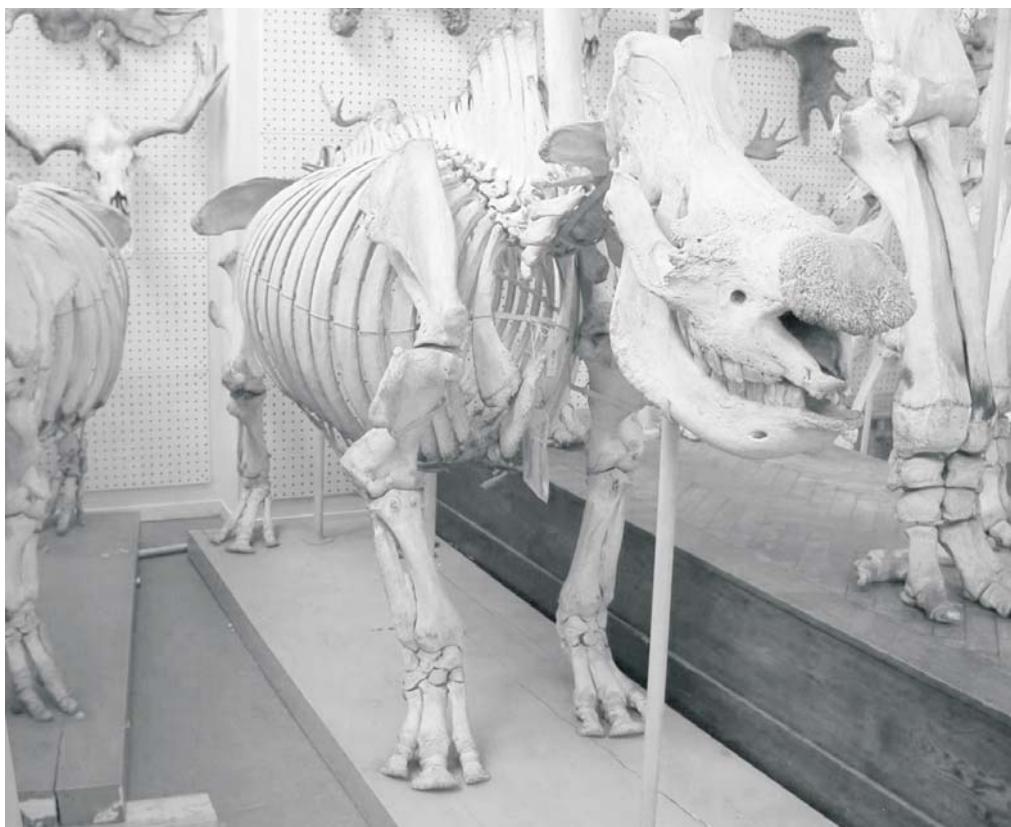


Figure 85. Skeleton of a white rhinoceros shot by Johan Wahlberg on 25 September 1842 in Zululand (Swedish Museum of Natural History, Stockholm, no. A591359. Photograph by Olavi Grönwall, 2007).



Figure 86. Foetus of a black rhinoceros, donated by Johan Wahlberg to the Swedish Museum of Natural History in Stockholm in 1845 (Photograph by Olavi Grönwall, 2007).

travelling along the Taokhe (Thaoge) River north of Lake Ngami, horns of rhinoceroses (one of them white) were collected on 30 August, 9 September and 24 October 1855. Wahlberg made two short excursions to Zululand between 1839 and 1845 accompanied by Delegorgue and stayed in his house on the White Umfolozi River. On 25 September 1842, near the confluence of the two Umfolozi Rivers, Wahlberg killed a white rhinoceros and recorded, in his characteristic diary shorthand: "cut up the carcass, with incredible labour, get the oxen to come and fetch the skin on a cut-down acacia. Get home after dark, and pitch my tent over the skin" (Wahlberg, 1994: 90). Among Wahlberg's specimens in the Stockholm Museum, is the mounted skeleton of a black rhinoceros shot in Caffraria (no. A591357; Wahlberg, 1994: 133) and one of a white rhinoceros shot on 25 September 1842 (no. A591359, Figure 85), stated on the label to be from "Zululand, Unvudozi" (Lönnberg, 1920; Wahlberg, 1994: 90; B. Fernholm, *in litt.* 2000). He also donated a foetus of a black rhinoceros, preserved in alcohol, to the museum in 1845 (Figure 86).

When Wahlberg visited London in July 1838 on his outward journey to the Cape, he met William Burchell, who showed him the horns of "the four presumed species" of rhinoceros (Adrian Craig in Wahlberg, 1994: xxiii). These four types obviously included the black and white rhinoceros, as well as the

Keitloa of Andrew Smith, but the identity of the fourth species is not immediately clear (Table 18). Wahlberg was eager to solve the mystery of the *Rhinoceros keitloa*. After his explorations of the African interior, Wahlberg commented on the subject in a letter to his family written from Cape Town on 5 January 1845:

When I saw this animal called *Keitloa*, which had been described as a new species, I can only say that I personally doubt the identification as a distinct species, in fact I would not hesitate to confirm the opposite. I have shot or asked to be shot a large number of both black and white rhinoceroses, and observed that the horns of these two species are quite variable in size and colour. In general, females have longer horns, males thicker ones. The posterior horns of old black rhinoceros females are usually at least half as long as the anterior horn, while in half of the males this length is not reached. Both specimens of *Keitloa* which I collected were females. I was surprised when I saw in Dr. Smith's description of the species that the animal which he had obtained was a male. That was quite contrary to the opinion which I had formed on this matter (Wahlberg, 1845: 427–428, translated from German).

As far as Wahlberg was concerned, he believed that it was not difficult to distinguish the black and white species, but that the existence of *Keitloa* as a separate species was doubtful.

24. Burke

North West, 1841. Table 9

Joseph Burke (1812–1873), an under-gardener in the employ of the Earl of Derby, was recruited to collect specimens of natural history in South Africa (Gunn & Codd, 1981: 110; Fisher, 2002: 116). He arrived on 17 March 1840 and when he left in July 1842 he did so with a large collection, which included three living antelope that he called eland, *Tragelaphus oryx* (Pallas, 1766). From the early years of the nineteenth century, Lord Edward Smith Stanley (1775–1851), 13th Earl of Derby, sought new birds and mammals to be exhibited in the aviary, menagerie and museum located in the grounds of Knowsley Hall, the family estate near Liverpool. Derby not only bought animals at auction sales, but he also dispatched collectors, such as Burke, to distant parts of the world to acquire specimens for him. When he died on 30 June 1851, the entire Knowsley Museum, numbering over 1000 mammals and 18 000 birds, passed into the possession of the City of Liverpool and much is still preserved in the National Museums and Galleries on Merseyside (Greenwood, 1980; Largen & Fisher, 1986).

Burke travelled in South Africa in the company of Carl Ludwig Philip Zeyher (1799–1858), who had arrived in the Cape in 1822 to collect botanical specimens and who had been with Christian Friedrich Ecklon (1795–1868) to the Eastern Cape in 1831–1832 (Gunn & Codd, 1981: 382). Burke and Zeyher left Uitenhage on 17 November 1840, proceeded to the Magaliesberg region and returned to the Cape on 7 June 1842. The rhinoceros is only noted in three places in the summary of Burke's diary.

Apparently there is no catalogue of the specimens taken by Burke to England. As a rule, Lord Derby did not keep larger animals for reasons of space, hence "the British Museum and Zoological Society [of London] received all the larger objects, as Giraffes, Rhinoceroses and other large game to the ultimate loss of Liverpool" (Moore, 1851: 6). There is truth in that contemporary remark, because as early as 1843 there was an adult (mounted) specimen of the black rhinoceros from South Africa in the British Museum, listed by Gray (1843: 186): "*Rhinoceros bicornis*, no. c. Adult, South Africa, presented by the Earl of Derby" and it is possible that this hide had been collected by

Table 19. Records of the rhinoceros by missionaries in Namibia 1840–1850 (§25).

No.	Date	Locality	Coordinates	Type	Species	Source
Carl Hugo Hahn						
E11	1843 Feb 7	Schwagaup River	22°20'S 16°58'E	S	bicornis	Gaerdes, 1967; Moritz, 2000: 76 (Hahn), 168 (Kleinschmidt)
E10	1843 Mar 7	Hatzamas	22°55'S 17°36'E	S	"white"	Moritz, 2000: 83
E11	1843 May 11	Harris = Aris	22°45'S 16°07'E	S	bicornis	Moritz, 2000: 89
E12	1844 Feb 21	Tsaobis	22°31'S 15°51'E	S	rhino	Gaerdes, 1967; Moritz, 2000: 100
E12	1844 Feb 23	Deineus = Salem	22°41'S 15°26'E	H	rhino	Moritz, 2000: 101, Vedder, 1981: 268 [as 1847]
Jan Bam						
E12	1844 Sep	Between Gross Barmen and Walvisbay	ca. 22°31'S 15°51'E	S	rhino	Moritz, 2000: 107; Andersson, 1856: 35
Hans Knudsen						
E6	1844 July 3	Kham	23°49'S 16°43'E	S	"white"	Moritz, 2000: 24
E6	1845 July 25	Beth Salem, Kham	<i>idem</i>	K	rhino	Moritz, 2000: 54
Heinrich Scheppmann						
E7	1845 Nov 30	Kuiseb River	23°24'S 14°56'E	K	bicornis	Moritz, 2000: 191
Johann Rath						
E14	1850	Mount Erongo	21°40'S 15°39'E	S	rhino	Vedder, 1981: 269
E7	ca. 1850	Kuiseb River. A missionary at Rooibank used the skin of a rhino as a door	23°24'S 14°56'E	K	bicornis	Joubert, 1971: 34

Burke. Burke also returned to England with the skull and the mounted head-skin of a white rhinoceros, which, according to Gray (1868: 1029) were in the Free Museum at Liverpool, "collected by Mr Burke in Lord Derby's exploring party". The same head and skull were mentioned by Renshaw (1904: 143), with the information that the horns measured 25 and 12 inches (63.5 and 30.5 cm) respectively. It is uncertain how this material came to be in the "Free Museum", but one might presume that it the same institution better known as the Liverpool Museum, which housed Derby's collection. There is, however, no record of a rhinoceros in the Liverpool Museum when it was founded, and one might postulate that the white rhinoceros head and skull had reached the museum by some other means and that Gray's attribution to Burke was incorrect. If the animal was indeed in the Liverpool Museum late in the nineteenth century, it would have been exhibited in the museum's mammal gallery which was destroyed by an incendiary bomb in 1941 and the white rhinoceros would have been one of the casualties (M. Largen, *in litt.* December 1999).

25. Rhenish Mission Society

Namibia, 1843–1850. Table 19

The Rheinische Missions Gesellschaft began working in what is now Namibia in 1842 and some early writings of the missionaries were assembled by Moritz (2000). During their travels in the region, the missionaries saw much wildlife and rhinoceroses were encountered in 1843–1845 by Carl Hugo Hahn (1818–1895), Jan Bam (d. 1856), Hans Knudsen (1816–1864) and Heinrich Scheppmann (1818–1847), and in 1850 by Johann Rath (1816–1903). At times they distinguished a "white" rhinoceros from the well-known "black" species, although, according to Knudsen (in Moritz, 2000: 24), the difference was hardly noticeable to unexperienced observers. Knudsen did not, however, provide any clues as to what characters one should look for in making the distinction, and we can only guess whether

these are references to the white rhinoceros that is known today.

26. Sherwill

South Africa, 1843

Three rhinoceros horns were recorded in the collection of the Asiatic Society of Bengal (ASB) in Calcutta, attributed to Major W.S. Sherwill with dates 1843 and 1846, but without data on their origin (Blyth, 1863: 138). Walter Stanhope Sherwill (1815–1890) went to India in 1834, posted to the 66th Volunteers Regiment. He was Bengal Surveyor 1842–1856 and then professor of surveying in the Civil Engineering College, Calcutta, until he retired in 1861. It is likely that he obtained the horns during periods of leave spent in Africa. The specimens were listed by W.L. Sclater (1891: 205–206):

Rhinoceros bicornis: a-b. 2 Anterior horns. W.S. Sherwill, 1843, A.S.B.

Rhinoceros simus: a. Anterior horn. W.S. Sherwill, 1843, A.S.B.

The museum of the Asiatic Society of Bengal became the nucleus of the Indian Museum in Calcutta in 1876 and ownership of the museum was transferred to the Zoological Survey of India in 1916. The collection remained in the museum during the Second World War, but the collection, which was not curated, suffered loss and damage (Groves & Chakraborty, 1983) and it is not known whether the African rhinoceros horns still survive.

27. Tindall

Namibia, 1844. Tables 20–21

Joseph Tindall (1807–1861) went to Africa in 1835 as a missionary with the Wesleyan Mission Society. Stationed in Gobabis after a first visit in 1844, he recorded that rhinoceroses were

Table 20. Records of the rhinoceros relating to the travels of Joseph Tindall (§27).

No.	Date	Locality	Coordinates	Type	Species	Source
E13	1844 Oct 18	Gobabis	22°27'S 18°58'E	K	bicornis	Tindall, 1959: 65–66
E13	1845 Oct 18	Gobabis	idem	K	rhino	Tindall, 1959: 80
E13	1846 Mar 18	Gobabis	idem	K	rhino	Tindall, 1959: 83

Table 21. Measurements of a rhinoceros killed near Gobabis in Namibia on 18 October 1844 by Joseph Tindall (1959: 65–66).

Measurement	Imperial	Metric
Length, from nose to tip of tail	14 ft 6 in	442 cm
Length of head	3 ft 4 in	102 cm
Girth (circumference of body)	12 ft 2 in	371 cm
Height at shoulder	4 ft 9 in	145 cm
Height at rump	5 ft 9 in	175 cm
Length of foreleg	2 ft 3 in	69 cm
Length of hind leg	2 ft 10 in	86 cm
Circumference of feet	3 in	8 cm
Girth between foot and knee	1 ft 6½ in	47 cm
Length of posterior horn	9–14 in	23–36 cm

common and that over 40 had been shot in a few months. An animal killed near Gobabis on 18 October 1844 was carefully measured (Table 21). Tindall recognized two species, which he called black and white, but he dismissed the claim of the Damara that the white always had longer horns than the black rhinoceros. He also learnt that the species differed in temperament, as the white rhinoceros generally flees from people, while the black occasionally attacks (Tindall, 1959: 66–67).

28. Hall

Eastern Cape, 1842–1853. Table 22

Henry Hall (1815–1882) entered British government service as Foreman of Works in the Royal Engineers Department in 1839. In 1842 he went to South Africa, where he was promoted to Clerk of Works of the fourth class in 1852, successively stationed at Fort Beaufort and Grahamstown. He returned to

England in 1860 where he died in London (Rochlin, 1961). In 1857 his paper on the animals of South Africa appeared in the *Cape Monthly Magazine* and in it are included many facts that are not found elsewhere because he compiled all the local information he had obtained during his residence in South Africa and his travels in the Eastern Cape (Hall, 1857; repeated in 1859: 118). Hall stated that a male rhinoceros, considered to have been the last in the Ecca Valley area (about 15km north of Grahamstown), had been killed in 1842 by the Koester family and also that one or two still survived in the dense Fish River bush in the same year, 1842. In fact, rhinoceros survived beyond that date in the Eastern Cape, because Hall records that on the Coega or Grassridge River, near Port Elizabeth, the last of the Chukooroos was shot in 1853 by what he called a “feeble” Khoisan who stumbled over a large old male, which carried a couple of score of bullets in his jacket (Hall, 1857: 7). Gordon Cumming (§30) also heard rumours of the occurrence of the rhinoceros in the Zuurberg and at Addo as late as 1849 (Gordon Cumming, 1850, vol. 1: 48). These records attest to the continued existence of the species, although possibly in low numbers, in the Eastern Cape during the 1840s and into the 1850s. This region, however, was no longer the destination of the majority of traders, explorers and big game hunters, who were obliged to travel to more distant places to find larger numbers of elephants.

29. Methuen

North West, 1844. Table 23

Henry Hoare Methuen (1818–1883) studied in Oxford and held a number of curacies in England from 1849 onwards (Moore Smith, 1929). He made a short journey to South Africa for health reasons in 1840, and in 1844 he had a longer trip with some sporting companions to the junction of the Marico and Limpopo rivers. Methuen saw both black and white rhinocer-

Table 22. Records of the rhinoceros relating to the travels of Henry Hall (§28).

No.	Date	Locality	Coordinates	Type	Species	Source
A5	1853	Coega River	33°37'S 25°42'E	H	bicornis	Hall, 1857: 7, 1859: 118
A8	1842	Ecca Valley	33°11'S 26°51'E	H	bicornis	Hall, 1857: 7, 1859: 118
A11	1842	Rhenoster Kop	32°14'S 22°54'E	H	rhino	Hall, 1857: 7, 1859: 118
A8	1842	Fish River Bush	33°30'S 26°55'E	H	rhino	Hall, 1857: 7, 1859: 118

Table 23. Records of the rhinoceros relating to the travels of Henry H. Methuen (§29).

No.	Date	Locality	Coordinates	Type	Species	Source
C34	1844 Aug 17	Mabotse Village	25°19'S 25°47'E	K	bicornis	Methuen, 1846: 152, 156, 160, 164
C34	1844 Aug 21	idem	idem	K	bicornis	Methuen, 1846: 156
C34	1844 Aug 26	idem	idem	S	rhino	Methuen, 1846: 164
C16	1844 Sep 13	Mariqua River	25°10'S 26°25'E	S	simum	Methuen, 1846: 192
C16	1844 Sep 23	idem	idem	S	rhino	Methuen, 1846: 205
F1	1844 Oct 14	Sichele's village (Kolobeng)	24°47'S 25°35'E	K	rhino	Methuen, 1846: 242

Table 24. Records of the rhinoceros relating to the travels of Roualeyn Gordon Cumming (§30).

No.	Date	Locality	Coordinates	Type	Species	Source
C9	1844 May 20	Great Chooi	26°33'S 24°53'E	T	rhino	Cumming, 1850, I: 236
F1	1844 June 4	Bakatla	24°35'S 25°40'E	K	bicornis	Cumming, 1850, I: 248
F1	1844 June 6	<i>idem</i>	<i>idem</i>	K	simum	Cumming, 1850, I: 254
F5	1844 June 22	Boötlonamy	23°35'S 25°48'E	W	bicornis	Cumming, 1850, I: 296
F5	1844 June 23	Lephebe	23°25'S 25°50'E	S	bicornis	Cumming, 1850, I: 298
F6	1844 June 27	Massouey	23°05'S 26°06'E	S	rhino	Cumming, 1850, I: 309
F7	1844 July 23	Letlochee	22°42'S 26°19'E	S	simum	Cumming, 1850, I: 346
F7	1844 Aug 22	Sabié	22°49'S 26°25'E	S	rhino	Cumming, 1850, II: 1
F7	1844 Aug 22	Sabié to Mangmaluky	<i>idem</i>	K	simum	Cumming, 1850, II: 2
F8	1844 Aug 27	Mangmaluky	22°46'S 26°50'E	T	rhino	Cumming, 1850, II: 2
F8	1844 Sep 6	<i>idem</i>	<i>idem</i>	K	simum	Cumming, 1850, II: 13
F8	1844 Sep 9	<i>idem</i>	<i>idem</i>	S	rhino	Cumming, 1850, II: 16
F8	1844 Sep 19	<i>idem</i>	<i>idem</i>	S	rhino	Cumming, 1850, II: 20
F5	1844 Oct 13	near Lephebe	23°19'S 25°38'E	S	rhino	Cumming, 1850, II: 40
F5	1844 Oct 24	near Bootlonamy	25°13'S 26°50'E	S	rhino	Cumming, 1850, II: 47
F6	1845 Apr 30	Massouey	23°05'S 26°06'E	S	rhino	Cumming, 1850, II: 89
F7	1845 June 6	Lesausau	23°03'S 26°28'E	K	bicornis	Cumming, 1850, II: 93
F8	1845 July 17	Mangmaluky	22°46'S 26°50'E	K	bicornis	Cumming, 1850, II: 100
F5	1845 Sep 3	Soobie	23°25'S 25°50'E	K	simum	Cumming, 1850, II: 111
F5	1845 Sep 4	<i>idem</i>	<i>idem</i>	K	bicornis	Cumming, 1850, II: 114
				S	simum	
F5	1845 Sep 8	<i>idem</i>	<i>idem</i>	K	bicornis	Cumming, 1850, II: 118
F10	1845 Sep 23	Moselakose	23°45'S 26°00'E	T	rhino	Cumming, 1850, II: 123
F10	1845 Sep 28	<i>idem</i>	<i>idem</i>	K	bicornis	Cumming, 1850, II: 131
				K	simum	
C14	1846 May 20	Maritsane River	26°09'S 25°25'E	T	bicornis	Cumming, 1850, II: 158
F3	1846 Aug 10	Lotsane River	22°41'S 28°11'E	T	rhino	Cumming, 1850, II: 210
F3	1846 Aug 11	<i>idem</i>	<i>idem</i>	K	simum	Cumming, 1850, II: 212
F3	1846 Aug 20	Mokojay River	<i>idem</i>	S	simum	Cumming, 1850, II: 214
C40	1846 Sep 17	Paapua near Seboono	22°46'S 28°16'E	S	bicornis	Cumming, 1850, II: 235
C40	1846 Sep 17	<i>idem</i>	<i>idem</i>	S	simum	Cumming, 1850, II: 239
C40	1846 Sep 19	<i>idem</i>	<i>idem</i>	K	bicornis	Cumming, 1850, II: 243, 247
				K	simum	
F11	1846 Oct 16	Guapa Mountains	22°58'S 27°34'E	K	bicornis	Cumming, 1850, II: 260
F11	1846 Nov 17	Limpopo River	23°09'S 27°45'E	K	bicornis	Cumming, 1850, II: 278
F11	1846 Nov 19	<i>idem</i>	<i>idem</i>	K	simum	Cumming, 1850, II: 281
C40	1847 Aug 8	Seboono	22°45'S 28°15'E	S	simum	Cumming, 1850, II: 328
F3	1847 Aug 15	Pepe Fountain	<i>idem</i>	S	rhino	Cumming, 1850, II: 329
F12	1847 Oct 28	Mariqua River	24°13'S 26°53'E	W	bicornis	Cumming, 1850, II: 342
F3	1847 Nov 16	Mariqua River	24°30'S 26°27'E	K	simum	Cumming, 1850, II: 349
F1	1847 Dec 5	Ngotwani River	24°30'S 25°35'E	W	bicornis	Cumming, 1850, II: 358
A5	1849	Addo	33°25'S 25°40'E	H	bicornis	Cumming, 1850, I: 48
A3	1849	Zuurberg	33°30'S 26°57'E	H	bicornis	Cumming, 1850, I: 48

oses, and claimed that the local people generally distinguished four kinds, one of which was *Rhinoceros keitloa* (Methuen, 1846: 152). He killed a female white rhinoceros measuring 11 feet (335 cm) in length and 6 feet (183 cm) in height at the withers (Methuen, 1846: 156).

30. Gordon Cumming

Eastern Cape, North West, Botswana, 1844–1849. Table 24 Figures 87–90

The southern African interior became increasingly accessible to whites in the middle of the 1840s and wildlife was by then scarce in the settled areas in the south. Missionaries, traders,

hunters, sportsmen and Boer settlers all helped to push the unofficial colonial boundaries of the Cape Colony and the Boer Republics northwards into the present Botswana, thus avoiding the tsetse fly area and generally following what was called the "Missionary's" or "Hunter's Road". The London Missionary Society established their advance mission station among the Tswana at Kolobeng, 40 km from the present Gabarone. The rhinoceros was common in Botswana except in the very arid regions. Until the discovery by whites of Lake Ngami in 1849, the area of the upper Limpopo River was the place where travellers and sportsmen went.

Roualeyn Gordon Cumming (1820–1866), son of Sir William Gordon Gordon-Cumming (1787–1854), second baronet of



Figure 87. Roualeyn Gordon Cumming. "The black rhinoceros giving chase" (*A Hunter's Life*, volume 1, 1850, p. 295).

Altyre and Gordonstown, went to India with the 4th Madras Light Cavalry in 1839, travelled to Newfoundland in 1840 and with the Cape Mounted Rifles to South Africa in 1843 (Le Roux, 1939: 60). He resigned from army service hoping to make his fortune by hunting big game in the African interior. He made five journeys inland until he returned to England in 1848, where he published his adventures in a popular bestseller entitled *Five Years of a Hunter's Life in the Far Interior of South Africa* in 1850. The book, which set an example for many others, became a classic in the hunting literature and it appeared in a number of editions in England and in the United States, and it

was still being reprinted as late as 1909. This publication earned Cumming the nickname of "The Lion Hunter" which he treasured. The book contains two plates of the black and the white rhinoceros (Gordon Cumming, 1850, vol. 1: 295 and vol. 2: 338; Figures 87–88). The illustration of the white rhinoceros is copied in a Dutch translation of Livingstone (1863: 248) with a greatly elongated anterior horn (Figure 89).

Gordon Cumming spent most of his time around the upper reaches of the Limpopo River and rhinoceroses were then plentiful. For instance, during the day of 4 September 1845 at a place called Soobie, he shot an extremely old bull black rhinoc-

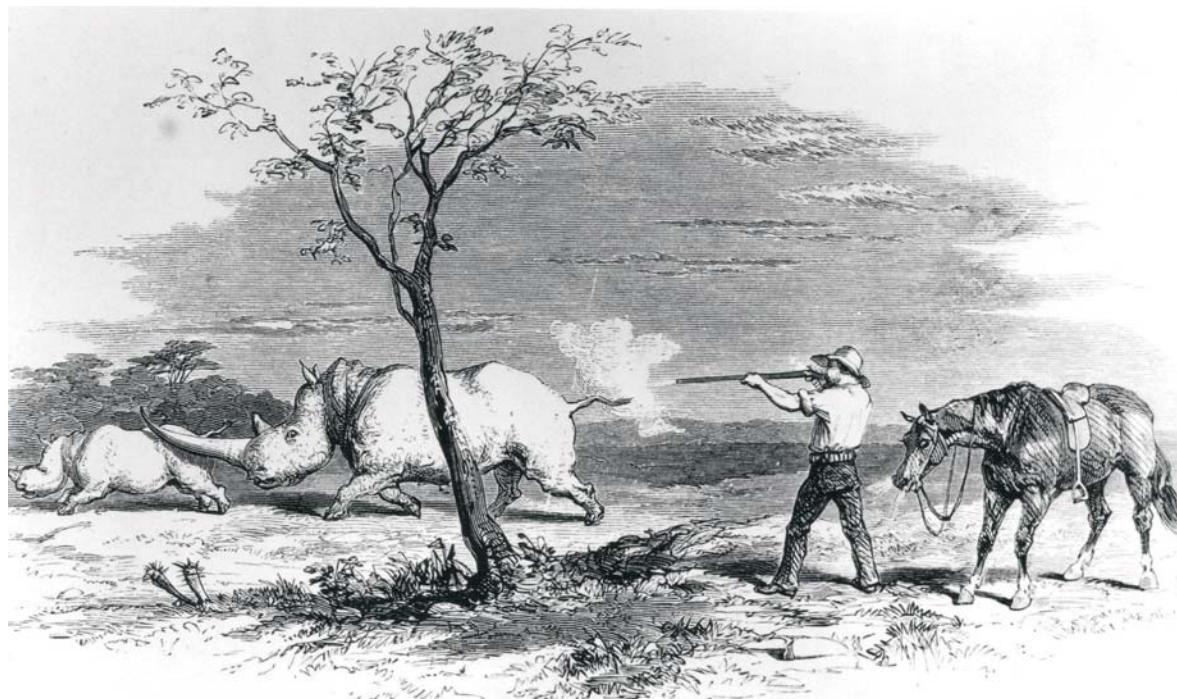


Figure 88. Roualeyn Gordon Cumming. "Hunting the white rhinoceros" (*A Hunter's Life*, volume 2, 1850, p. 338).

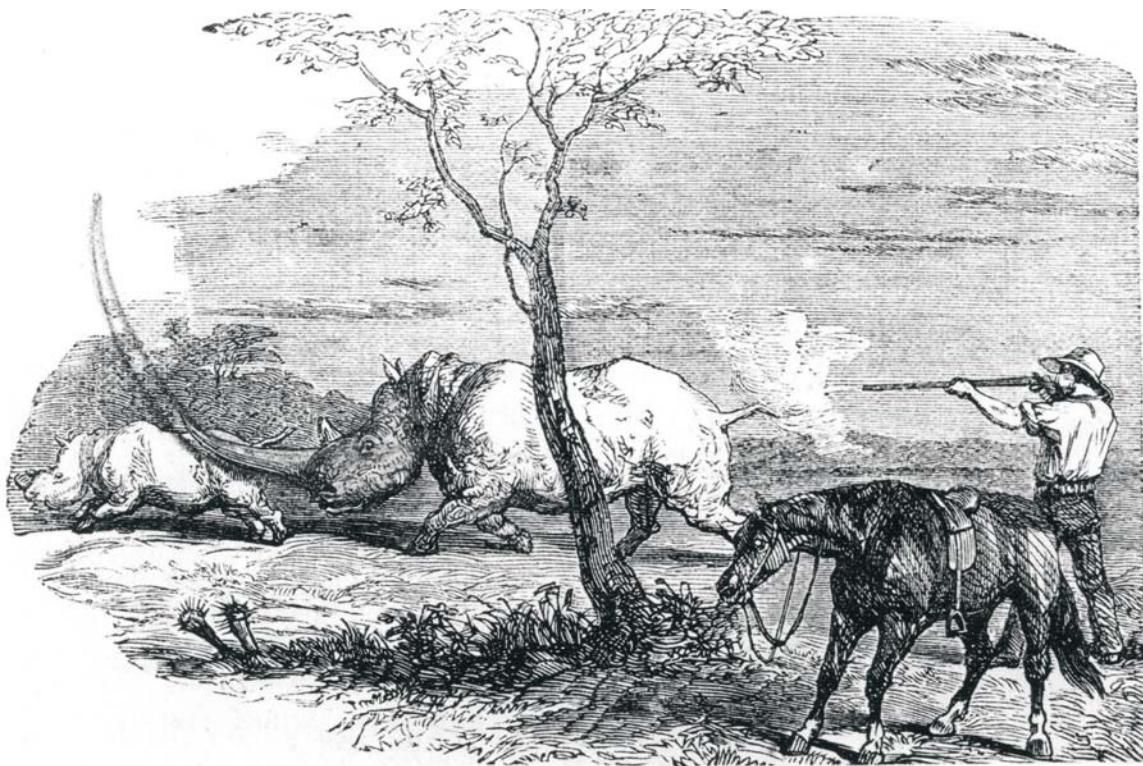


Figure 89. Roualeyn Gordon Cumming. Hunt of white rhinoceros with elongated front horn (Livingstone, *Ontdekkingsreizen in de Binnenlanden van Afrika*, 1863, p. 248).

eros. That night, he first wounded a cow black rhinoceros, and thereafter two two black and two white rhinoceroses came to the waterhole. He then mortally wounded the two black rhinoceroses, later followed by a third (Gordon Cumming, 1850, vol. 2: 114). He often encountered white rhinoceroses in groups of three to six, and once he saw a dozen congregated together (Gordon Cumming, 1850, vol. 1: 252).

During his hunting expeditions between 1843 and 1847, it is certain that Gordon Cumming killed many more than the 12 white and 17 black rhinoceroses he mentioned in his book. He shot them for the enjoyment of the sport, and at times to provide food for his followers and assistants. On 7 June 1844, he killed a white rhinoceros that had an anterior horn measuring 3 feet (91 cm) in length and almost a foot (30 cm) in diameter. On 6 September 1844 and 16 November 1847, he again collected unusually long horns from white rhinoceros (Gordon Cumming, 1850, respectively vol. 1: 256; vol. 2: 13 and 349). As for the black rhinoceros, on 17 July 1845 he cut off the horns of a dead specimen and on 8 September 1845 he found a magnificent animal that had three distinct horns (Gordon Cumming, 1850, vol. 2: 100 and 118). When he returned to England, Cumming carried back one skull each of a black and a white rhinoceros and a few sets of horns with him as trophies.

From early 1850, Gordon Cumming exhibited his African trophies at Hyde Park Corner in London: "Mr. Cumming's exhibition is particularly rich in the horns of the rhinoceros. They extend in a row all round the hall, and among them are the horns of the *muchicho*, or white rhinoceros, the animal next in size to the elephant; of the *borele*, or black rhinoceros, an animal remarkable for its ferocity; of the *keitloa*, or long-horned black rhinoceros, a dangerous animal; and of the *kobaoba*, or long-horned white rhinoceros" (Anonymous, 1850). In 1851, he displayed the trophies at the Crystal Palace exhibition in London and thereafter he continued with a special South African Exhibit in Piccadilly, with "a black fellow parading up and down in front of it in a leopard kaross, to attract visitors" (Frank

Vardon in a letter to William Cotton Osweill, 12 August 1851, reprinted in W.E. Osweill, 1900: 260). To accompany his exhibition, Gordon Cumming prepared an *Illustrated catalogue of hunting trophies*, printed in 1851 and again in 1853, both editions being identical except for the title-page. According to Gordon Cumming (1851: 5), visitors could see skulls of both the white

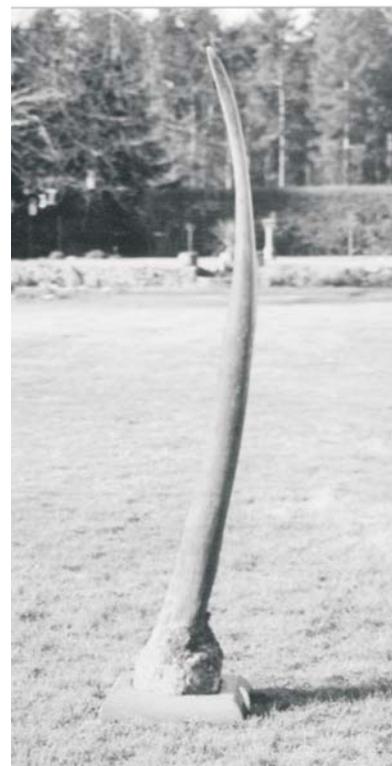


Figure 90. Horn of white rhinoceros collected by Roualeyn Gordon Cumming in the 1840s (Collection of the family of Gordon Cumming, 2002).

Table 25. Records of the rhinoceros relating to the travels of William Cotton Osowell in 1844–1846 (§31). For his travels in 1849–1852 with Livingstone, see Table 27.

No.	Date	Locality	Coordinates	Type	Species	Source
C19	1845–1846	Molopo River	28°00'S 20°35'E	K	bicornis	Oswell, 1894: 42
F9	1845–1846	Limpopo River	23°25'S 27°15'E	K	rhino	Oswell, 1894: 84
F9	1846 April	Marqué River [Marico]	24°29'S 26°25'E	K	simum	Oswell, 1894: 95
F9	1845–1846	Limpopo River	<i>idem</i>	K	simum	Oswell, 1894: 101
F9	1845–1846	Limpopo River	<i>idem</i>	K	bicornis	Oswell, 1894: 116–117
C39	1845–1846	Makolwé [=Mokolo] R.	23°25'S 27°41'E	K	simum	Elliot, 1847; Oswell, 1900: 138

(no. 11) and black rhinoceros (no. 12), as well as four pairs of horns belonging to these two species (nos. 13, 14, 15, 15a).

Later in the 1850s, Gordon Cumming purchased a building in Fort Augustus, Scotland, in which to house his collection. There is, unfortunately, no catalogue to tell us how many trophies were exhibited or how these were arranged. The legendary eccentricity of its owner seems to have added both to the charm and to the success of this museum in the Scottish Highlands. This rather curious private collection closed when Gordon Cumming died on 23 March 1866 and the contents were sold in London on 1 and 2 June 1866 by the established auction-house of John Crace Stevens (1817–1899): “all the trade was well represented, and the one day’s sale fetched £1,000” (Allingham, 1924: 65). The sales catalogue (Gordon Cumming, 1866) listed “2 rhinoceros with horns” (lots 515, 516), “62 rhinoceros horns” (lots 89, 98, 107, 108, 209, 244, 245, 246, 247, 248, 249 and 252 on 1 June 1866, and lots 326, 327, 328, 407, 408, 458, 503, 507, 526, 527, 528, 529, 539, 540, 541, 542, 543 and 544 on 2 June 1866), and “walking sticks of rhinoceros’ horn and shields” (lots 578, 579, 580). While the horns are not identified further in the auction catalogue, on two occasions their lengths were provided: one measured 3 feet (91 cm), the other 3 feet 4 inches (102 cm). The highest price paid for a pair of horns was £7, but most secured less than £3. In the auction, the skull of the black rhinoceros with horns measuring 2 feet 3 inches (68 cm) and 12 inches (30.5 cm) respectively, was sold for £13, but it is no longer traceable. The white rhinoceros skull, with horns of 2 feet 11 inches (89 cm) and 11 inches (28 cm) respectively, was bought by the Royal College of Surgeons in London for £6-15s and recorded by Flower (1884: 424):

No. 2154. Skull with two horns. From an aged animal shot in South Africa by the late R. Gordon Cumming, Esq. The anterior horn measures 34 inches [86 cm] in a straight hue, the posterior 10½ inches [27 cm]. Gordon Cumming Collection. Purchased, 1866.

This specimen was known to Lydekker (1911) as a fine skull with horns of an aged bull white rhinoceros.

Not all the trophies collected by Gordon Cumming in South Africa were auctioned in 1866. The family must have kept at least two remarkably long rhinoceros horns because these were first recorded and illustrated by Rowland Ward in the third edition of the *Records of Big Game*, as being from the ownership of Colonel William Gordon Cumming, Roualeyne’s younger brother, with the date 1898 (Ward, 1899: 439; Selous, 1899: 62–63). Ward listed two horns, the first as the longest horn of a white rhinoceros ever recorded until that time, measuring 62½ inches (178 cm) in length and 22½ inches (76.5 cm) in circumference, as well as the third longest with a length of 52½ inches (133.3 cm) and a circumference of 21½ inches (54.6 cm). There is no evidence that Gordon Cumming was himself aware that he possessed the longest specimens ever

obtained. It is extremely difficult to trace the owners of record specimens in Rowland Ward’s *Records of Big Game* because most of the listings refer to private collections and once a record has been entered, the information on provenance is never updated. Discovering the present whereabouts of these record-length rhinoceros horns has been an extremely exciting quest (Rookmaaker, 2002a).

In case of Gordon Cumming’s collection, the family tradition was that many of the trophies had been sold to Barnum in the United States, where they perished in a fire shortly afterwards. In fact, Phineas Taylor Barnum (1811–1891) ran a successful museum in New York for many years, until the entire collection was burnt on 12 July 1865, followed by a second fire on 2 March 1868. But very fortunately, the rhinoceros horns were not destroyed, because they had not, in fact, been sold, but preserved by Gordon Cumming’s descendants. In 2000, Sir William Gordon Cumming (1928–2002) of Forres, Scotland, confirmed the existence of the smaller horn, but reported, however, that the longest one had been stolen in the 1990s (Figure 90). It has been rumoured that it was smuggled to East Asia, where, perhaps, it lies on a stockpile, if it has not already been ground into powder to be sold as a fever-reducing medicine. The smaller horn is still in Altyre, preserved by Sir William’s son, Sir Alexander (“Alastair”) Penrose Gordon Cumming (b.1954), and Sir William’s widow, Sheila, Lady Gordon Cumming.

31. Osowell

North West, Botswana, 1845–1850. Table 25, Figures 91–97

William Cotton Osowell (1818–1893) arrived in South Africa in October 1844 on leave from the Indian Civil Service, which he had joined in 1837 (Le Roux, 1939: 109). He journeyed to the Limpopo River, accompanied by Mungo Murray (1802–1890). On the way, he met Captain Frank Vardon (1815–1860) of the 25th Regiment of the Madras Native Infantry and decided to team up with him. At the end of 1846 Osowell returned to India and soon afterwards was back to England. In 1849 to 1850, he joined Livingstone in his search for Lake Ngami (see §33). Osowell was primarily interested in elephants to obtain ivory. He did not publish extensively on his adventures in the African interior, but he did contribute a chapter to the Badminton Library’s volume on *Big Game Shooting* of 1894, which includes two plates of hunters being attacked by black rhinoceroses (Oswell, 1894: 117, 139; Figures 91–92). Other Osowell experiences were edited posthumously from his fieldnotes by his son, William Edward Osowell (1900). William included the same plates of the rhinoceros found in Osowell (1894) as well as three photographs of horns that remained in the hands of the family (W.E. Osowell, 1900: 138, 139, 141, 143, 145; figures 93–95).

On their journey to and from the Limpopo River, Osowell and Vardon are said to have killed no less than 89 rhinoceroses in a

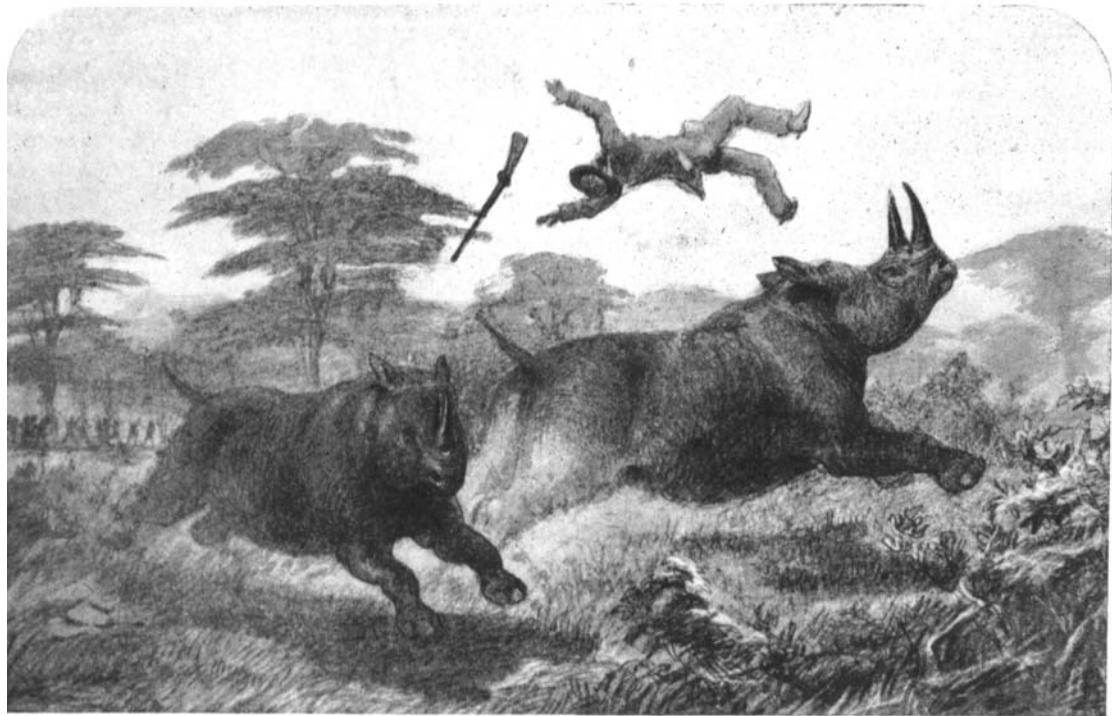


Figure 91. Two black rhinos attacking Oswell (Oswell, *William Cotton Oswell, Hunter and Explorer*, 1900, p. 143).

single year (Andersson, 1856: 401). The horns of some of these were kept and taken back to England, where, we presume, Oswell preserved them privately. After his death, the more impressive horns, all from white rhinoceros, were recorded in Rowland Ward's *Records of Big Game* (1896: 289–290, 1899: 440):

1. Oswell, 1891. Limpopo River. Front horn length 42 $\frac{3}{4}$ inches (108.6 cm), circumference 25 5/8 inches (65 cm).
2. Oswell, 1891. South Africa. Front horn length 38 5/8 inches (90.5 cm), circumference 24 1/2 inches (62.2 cm).

3. Oswell, 1895. Lake Ngami. Front horn length 32 $\frac{3}{4}$ inches (83 cm), circumference 27 inches (68.6 cm).

4. Oswell and Steele, 1891. Lake Ngami. Front horn length 28 7/8 inches (73.3 cm), circumference 22 5/8 inches (57.5 cm). Rear horn length 9 inches (22.8 cm), circumference 19 1/4 inches (48.9 cm).

The longest horn on this list, measuring 108.6 cm along its curve, was probably the horn of the *Quebaaba* illustrated by W.E.Oswell (1900: 138), even though he gave the length as a



Figure 92. Black rhinoceros attacking a rider on a horse (Oswell, *William Cotton Oswell, Hunter and Explorer*, 1900, p. 139).



Figure 93. Horn of white rhinoceros shot by Osowell (Oswell, *William Cotton Osowell, Hunter and Explorer*, 1900, p. 138).



Figure 94. Horn of the rhinoceros which killed Oswell's horse Stael (Oswell, *William Cotton Osowell, Hunter and Explorer*, 1900, p. 141).

quarter of an inch shorter than this. On 14 January 1852, Oswell wrote from Colesberg to his friend Vardon, saying that he had heard that "a quebaaba was shot last year, though alas! not by me, with a horn 4 feet 9 inches [144.8 cm] long" (W.E. Oswell, 1900: 262). This enormous horn is not listed by Rowland Ward, and it would be the second longest ever recorded. Both these trophy horns belonged to that "special" kind of white rhinoceros, which was to become known as "Oswell's Rhinoceros." Oswell probably had quite a large store of shorter rhinoceros horns and one of these, 23½ inches (59.7 cm) long, also figured in his son's book. This belonged to the animal which tossed Oswell into the air (W.E. Oswell, 1900: 145), and incident related by Livingstone (1857: 611–612), who saw Oswell's wound some 5 inches long that was a consequence of this attack.

While shooting wildlife with Vardon in June or July 1846, Oswell reached a tributary of the Limpopo which he called the Makólwe River (Mokolo). There they found rhinoceroses with very long anterior horns which curved forward. On his return to India, Oswell told his friends about this hitherto unknown kind of rhinoceros, and this tale resulted in a notice about this animal that appeared in the *Madras Journal of Literature and Science* for June 1847 together with Oswell's map of South Africa.

It was on the banks of the Makólwe, an important tributary of the Limpopo, that the travellers first met with the singular animal of which we have given the accompanying figure, the fidelity of which is attested by Mr Oswell. He

describes it as resembling generally the white rhinoceros (*Rhinoceros simus*) "except in the formation of the horn, which is longer, much straighter and curved, though but slightly, in exactly the contrary direction. The two specimens of the horn which we brought from the interior, are abraded at the points, on the lower sides, probably from coming in contact with the ground while the animal is feed-



HORN OF SPECIES OF RHINOCEROS THAT TOSSSED OSWELL.

Length, 23½ inches.

Figure 95. Horn of rhinoceros which almost killed Oswell (Oswell, *William Cotton Osowell, Hunter and Explorer*, 1900, p. 145).

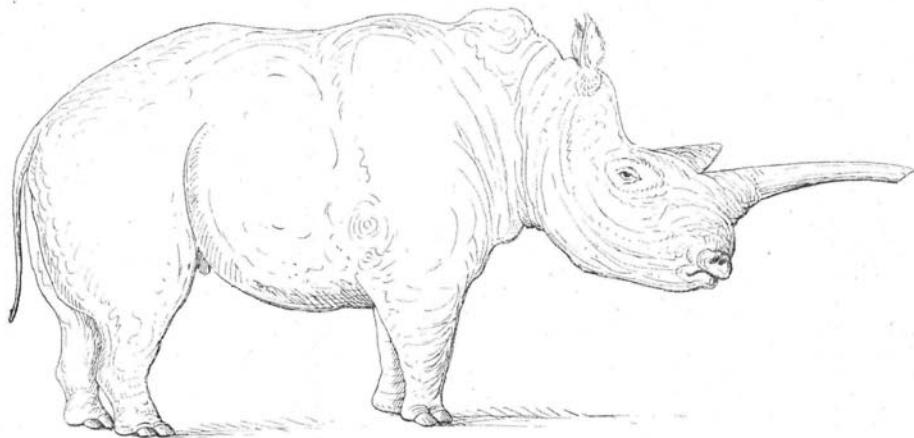


Figure 96. First illustration of the type of *Rhinoceros oswelli* (*Madras Journal for Literature and Science*, volume 16, 1847).

ing. When running at speed or when alarmed, it carries the head very low, as do likewise the other species, and the horn then standing nearly straight out from the nose with a trifling curve downwards, may occasionally strike or rub against the inequalities of the ground. From the circumstance of the *Quebaba* being found in the same neighbourhood, and from its general resemblance to the white rhinoceros, we at first supposed the peculiarity of the horn to be merely a malformation, but the fact of five having been seen, two of which were shot – of the Bechuana who inhabit the country in which the specimens were obtained, knowing the animal well under a distinct name, and describing it as frequently to be met with, though by no means so common as the other kinds, – together with the circumstance of its being unknown to the south of the tropic, though the common white rhinoceros is there found in abundance, – caused us to change our opinion and to consider it as certainly a distinct species." The name *Quebaba* is that by which the Bechuana distinguish it from the common white species which they designate *Chakuru*, the *Mahuu* of the Matabili. Concurring in opinion with Mr Osowell, that the above facts render the existence of the *Quebaba* as a distinct species, highly probable, we have named it provisionally after its discoverer, *Rhinoceros Oswelli* (Elliot, 1847: 182; the same passage reprinted in W.E. Osowell, 1900, vol. 1: 138).

This notice was accompanied by a plate of "Rhinoceros Oswellii" lithographed by J. Dumphy, who worked for the Government Lithographic Office in Fort St. George (Figure 96). It is not clear who should be regarded as the author of *Rhinoceros oswelli* first named in this passage, for Oswell himself would not have dared to name the species after himself. In the absence of other proof, it has been suggested that the name be attributed to Sir Walter Elliot (1803–1887) of the Indian Civil Service in Madras, at the time editor of the *Madras Journal* (Sherborn, 1927: 4642, followed by Rookmaaker, 1983: 33 and Meester *et al.*, 1986: 172). The type locality of *Rhinoceros oswelli* is the Mokolo River, Limpopo Province, South Africa. In the December 1847 issue of the same journal, Oswell (1847) corrected the local names of the different kinds of rhinoceros, stating that the Bechuana used *Chukuru* for all types of rhinoceros. Oswell himself distinguished three species: the black rhinoceros called *boreali* or *Rhinoceros bicornis*, of which the *keitloa* of Smith was a variety, and two types of white rhinoceros, the *mahuu* or *Rhinoceros simus*, and one which the Bechuana call *quebaba* and which had been named *Rhinoceros oswelli*.

While the description of Oswell's Rhinoceros by Elliot (1847) was often overlooked, the same name was used by Gray (1853) to describe a remarkable pair of horns, measuring 31 and

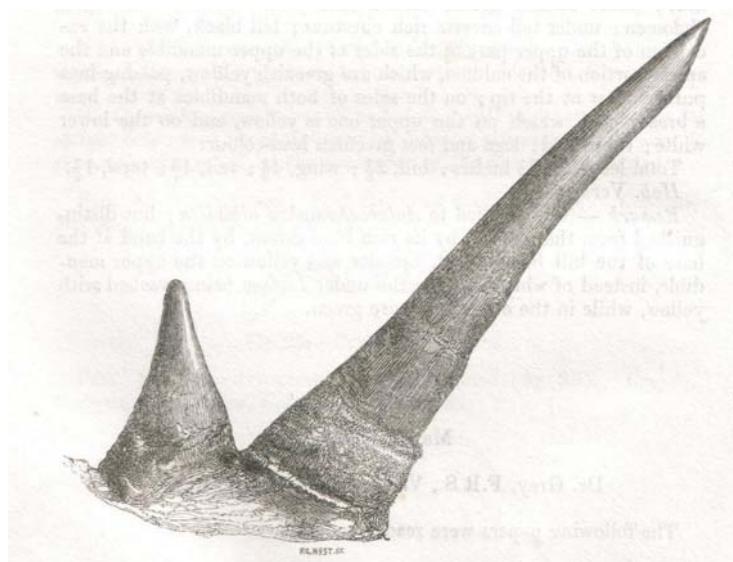


Figure 97. Type of *Rhinoceros oswelli* described by J.E. Gray (*Proceedings of the Zoological Society of London*, 1853, p. 46).

Table 26. Records of the rhinoceros relating to the travels of Robert Arkwright (§32).

No.	Date	Locality	Coordinates	Type	Species	Source
C34	1846 May 16	Manwane	25°20'S 25°46'E	K	rhino	Arkwright, 1971: 40
C34	1846 May 25	[no name]	25°05'S 25°35'E	S	rhino	Arkwright, 1971: 41
F5	1846 June 1	Lephephe	23°21'S 25°51'E	W	rhino	Arkwright, 1971: 43, 44
F5	1846 June 2	<i>idem</i>		W	rhino	Arkwright, 1971: 44
F6	1846 June 4	Masoni	23°15'S 26°20'E	S	rhino	Arkwright, 1971: 45
F7	1846 June 8	Shoshong	23°03'S 26°28'E	S	bicornis	Arkwright, 1971: 46
F8	1846 June 12	Schanie River	22°34'S 26°47'E	K	bicornis	Arkwright, 1971: 47
F8	1846 June 16	Serowe	22°25'S 26°50'E	K	simum	Arkwright, 1971: 48
F3	1846 July 12	Limpopo River	22°40'S 28°07'E	K	rhino	Arkwright, 1971: 58
F3	1846 July 14	<i>idem</i>		K	simum	Arkwright, 1971: 59
F3	1846 July 16	<i>idem</i>	22°48'S 28°09'E	K	bicornis	Arkwright, 1971: 60
C39	1846 July 28	Lephalala River	23°14'S 27°53'E	S	rhino	Arkwright, 1971: 66
C40	1846 Aug 7	Paapua, Limpopo River	23°44'S 27°06'E	K	rhino	Arkwright, 1971: 69

11 inches (84 and 28 cm) respectively, depicted in a figure that accompanied his short paper (Figure 97). Proposing to call the species *Rhinoceros Osweillii*, he gave no reason beyond stating that it "was discovered in the interior of South Africa by his [Steele's] friend Mr. Osweill." In his version of the reading of this paper, however, Timbs (1854: 235) added that Gray had received a letter from Osweill regarding this new species. The horns were presented to the British Museum in 1853 by Colonel Thomas Montague Steele (1820–1890), who accompanied Livingstone for a short period in the South African interior in 1843. In a manuscript entitled "generic list of animals killed by Thomas Steele", it is recorded that he killed five rhinoceroses when he was in South Africa (National Library of Scotland).

32. Arkwright

Botswana, 1846. Table 26

Robert Wigram Arkwright (1822–1888) arrived in South Africa in May 1843 as a Lieutenant in the Seventh Dragoon Guards and was stationed in Grahamstown until December

1845 (Tabler in Arkwright, 1971). In 1846 he went on a hunting expedition along the Limpopo River, travelling with Lt. James Christie. Arkwright's diary about this journey was first published only in 1971. Because Arkwright rarely mentioned the names of place and rivers, generally we have to guess where he was every day, but we do know that he was hunting in the area around the Limpopo River where Gordon Cumming was also active around the same time. Arkwright killed at least eight rhinoceroses, but there is no evidence that he took any trophies with him back to the Cape. Although his diary does not elaborate on zoological matters, Arkwright distinguished three kinds of rhinoceros: a black rhinoceros, a white one, and a small black rhinoceros known as *borele* (Arkwright, 1971: 60).

33. Livingstone

Botswana, Zimbabwe, Zambia, 1848–1860. Table 27

David Livingstone (1813–1874), the well-known missionary attached to the London Missionary Society, travelled widely in southern Africa. After his arrival in 1841, he occupied mission stations at Mabotse and Chonwane (then by BaKwena capital),

Table 27. Records of the rhinoceros relating to the travels of David Livingstone (§33).

No.	Date	Locality	Coordinates	Type	Species	Source
F1	1848	Kolobeng	24°47'S 25°35'E	S	bicornis	Livingstone, 1857: 151; 1959: 236; 1960: 303
F14	1850 Feb 4	Zouga River	20°30'S 22°35'E	S	bicornis	Livingstone, 1959: 72
F13	1851	Between Mababi and Matlomaganyana	19°30'S 23°40'E	T	rhino	Livingstone, 1852: 164
F14	1851 June 11	Towards Lake Ngami	20°42'S 22°51'E	T	rhino	Livingstone, 1960: 13
F14	1851 Aug	Zouga River	20°25'S 22°35'E	W	simum	Oswell, 1850: 150
F14	1851 Aug 24	<i>idem</i>		S	bicornis	Livingstone, 1960: 62; 1851: 23
F17	1852 Feb 17	Koobe	21°06'S 22°18'E	K	bicornis	Livingstone, 1960: 100
F16	1852 Apr 11	Tsaehleriga	18°44'S 24°21'E	S	rhino	Livingstone, 1960: 109
F16	1852 Apr 16	N'gwa Hill	18°25'S 24°18'E	S	simum	Livingstone, 1960: 110
G1	1854 Sep 5	Matabele country	18°00'S 28°00'E	H	rhino	Livingstone, 1856: 101
G2	1856	Batoka Plateau: Vungue, Semalembue	16°45'S 26°45'E	T	bicornis	Livingstone, 1857: 611; Kirk, 1864
Zambezi Expedition with John Kirk						
G6	1860 Dec 16	Tete	16°07'S 33°33'E	S	bicornis	Kirk, 1965, I: 314
G5	1860 Feb 18	Zambezi River	16°54'S 34°42'E	K	bicornis	Kirk, 1965, I: 286
G5	1860	Moramballa	<i>idem</i>	S	bicornis	Kirk, 1864
G4	1860	Sena	17°24'S 35°05'E	S	bicornis	Kirk, 1864

Table 28. Records of the rhinoceros relating to the travels of Alfred Dolman (§34).

No.	Date	Locality	Coordinates	Type	Species	Source
F1	1849 July 4	Chooi Moklape	25°08'S 25°38'E	H	rhino	Dolman, 1924: 181
F1	1849 July 5	<i>idem</i>	<i>idem</i>	S	simum	Dolman, 1924: 182
F1	1849 July 6	Moleto	25°03'S 25°36'E	T	rhino	Dolman, 1924: 183
F1	1849 July 10	Kok-khola	24°58'S 25°39'E	S	bicornis	Dolman, 1924: 185
F1	1849 July 13	North of Kok-khola	<i>idem</i>	T	rhino	Dolman, 1924: 189
F1	1849 July 14	<i>idem</i>	<i>idem</i>	S	rhino	Dolman, 1924: 189
F1	1849 July 16	<i>idem</i>	<i>idem</i>	S	rhino	Dolman, 1924: 190
F1	1849 July 19	<i>idem</i>	<i>idem</i>	S	bicornis	Dolman, 1924: 192
F1	1849 July 27	<i>idem</i>	<i>idem</i>	S	rhino	Dolman, 1924: 197

and from 1847 at Kolobeng (Roberts, 1877; Benson, 1973). Livingstone met William Cotton Oswell (§31), who was to become his friend as well as one of his main supporters, for the first time at Mabotse in 1845. When he was in England in 1848, Oswell heard about Livingstone's plans to go in search of a large lake rumoured to be located in the arid interior. Oswell went back to the Cape for the second time at the end of 1848 and only returned to England in 1852. In March 1849, Livingstone and Oswell, together with Mungo Murray (1802–1890) and J. H. Wilson (a local trader, see Wallis, 1936: 153) set out from Kolobeng. They followed the course of the Botlele River through northern Botswana (near Maun) and first saw the shores of Lake Ngami in August that year. There was plenty of wildlife along the Botlele and near the lake, but "rhinoceroses and other game (except in one or two particular spots) very scarce" (Osstell, 1850: 150).

Livingstone made several further journeys to Lake Ngami between 1849 and 1851. This was followed from 1852 to 1856 by his first trans-African journey when he visited the Chobe and Zambezi valleys, thereafter returning to London. He described his explorations in a series of shorter papers (Livingstone, 1852, 1854) and summarised them in his *Missionary Travels* (London, 1857). This is not a zoological work and we only have glimpses of the animals he saw. However, Livingstone is more expansive on these matters in his letters to his family and friends and especially in his private journal (Livingstone, 1959, 1960, 1974).

One day in 1848, between him and the waggons, Livingstone encountered a black rhinoceros with a calf. The larger animal broke a spoke in one of the wagon wheels "as if it had been a boiled carrot", but soon afterwards ran off (Livingstone, 1959, vol. 1: 236, 1960: 303). On another occasion, a rhinoceros passed within two yards of Livingstone, who was hiding in a bush (Livingstone, 1959, vol. 2: 72). Although zoology was not his field of specialisation, Livingstone was a careful and attentive observer and he was one of the few early travellers to look at parasites on rhinoceros. In one instance he found tapeworms, short worms and threadworms together in the stomach of a black rhinoceros. He noted that there were very few ticks on the body, apart from his once finding a kind of worm located between the eyeball and the eyelid of a rhinoceros. While Livingstone appreciated that this must have caused some discomfort to the creature, he did not suppose it to be the cause of the rhinoceros's defective eyesight. This he attributed to the horns being positioned in front of the eyes, thus preventing clear vision (Livingstone, 1960: 74; similarly in a letter written to Henry Denny (1803–1871), entomologist in Liverpool, from Kolobeng on 7 December 1849, see Boucher, 1985: 41). Parasites had also been found in the rhinoceros stomach by Delegorgue (1847, vol. 2: 429).

Livingstone was among the first whites to explore the regions

along the Zambezi River, from 1853 to 1856, and he justifiably called it an "expedition of discovery." He first saw the Victoria Falls in November 1855 and he was also the first European to find rhinoceros north of the Zambezi River in the Batoka country, in present Zambia. After visiting the Victoria Falls in 1855, Livingstone followed the Zambezi River downstream. He noticed that the black rhinoceros was very scarce everywhere, while the white rhinoceros "is quite extinct here" (Livingstone, 1857: 611) – although, as is now known, the species has never been found anywhere between the Zambezi River in the south and Central Africa in the north.

Between 1858 and 1864 Livingstone went on another Zambezi Expedition, embarking from the East Coast. This time he was accompanied by a group of people among whom was John Kirk (1832–1922) as medical officer and economic botanist. Kirk (1864) wrote a paper on the mammals of Zambesia and this, together with two brief passages in Kirk's journals, are all we know about the rhinoceroses which we assume were common in many areas. Kirk saw the black rhinoceros in different places along the Zambezi River, from the Batoka Country in Zambia to the coastal regions of Mozambique.

34. Dolman

North West, Botswana, 1849. Table 28, Figures 98–99

The journal that Alfred Dolman (1827–1851) kept of his journey to Moleto (near Kanye, SE Botswana) in 1849 was published only in 1924 from manuscripts preserved by his brother, Frederick Dolman of Sampford Peverell, Devon. Currently (2007) they are in the hands of descendants, either the Irving or Dolman family in England (Dolman, 1924; J. Irving, pers. comm. January 2007). While Dolman often saw tracks of rhinoceroses, both black and white, he only saw the animals themselves on a few occasions. We cannot establish whether rhinoceros were becoming scarcer, or whether Dolman simply did not bother to record all his sightings. He was certainly able to sketch the four types of rhinoceros, the *Borhili* and *Keitloa* as black rhinoceros, and the *Mohohu* and *Quebaba* as white rhinoceros (Dolman, 1924: 187; Figure 98). The rhinoceroses depicted in a second sketch by Dolman, called "rhinoceros stalking", remain unidentified (Dolman, 1924: 191; Figure 99).

35. Andersson

Namibia, Botswana, 1850. Table 29, Figures 100–104

Charles John Andersson (1827–1867) began his studies of zoology at the University of Lund in 1847, but soon abandoned them (Anonymous, 1868; Wallis, 1936). He went to England in 1849 to try to sell live animals to the Zoological Gardens of Hull, an institution that had a brief existence from 1840 to 1862