

ILLUSTRATIONS
OF THE
ZOOLOGY OF SOUTH AFRICA;

CONSISTING CHIEFLY OF
FIGURES AND DESCRIPTIONS OF THE OBJECTS OF NATURAL HISTORY
COLLECTED DURING
AN EXPEDITION INTO THE INTERIOR OF SOUTH AFRICA,
IN THE YEARS 1834, 1835, AND 1836;
FITTED OUT BY
"THE CAPE OF GOOD HOPE ASSOCIATION FOR EXPLORING CENTRAL AFRICA."

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MAMMALIA.

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P R E F A C E .

“THE Cape of Good Hope Association for Exploring Central Africa,” which was established in Cape Town in 1833, found itself (on the return from the interior, in December 1836, of an expedition which it had despatched eighteen months before) in possession of an extensive and varied collection of objects of Natural History, many of which were new to science, and many others, though not new, comparatively little known. The Society, mindful of its original object,—the promotion of knowledge,—immediately resolved that descriptions and figures of the new and other objects of particular interest should, if possible, be published; the more especially as beautiful representations of all had been made by Mr. Ford, from specimens either living or recently dead. Desirable as this appeared, the Association saw little prospect of its being effected without some pecuniary assistance; they therefore determined to seek the support of the Home Government, and authorized me to wait on Lord Glenelg, on my arrival in England, and represent to his Lordship the views of the Association, and how desirous its members were that the ample stores they possessed should be employed in the advancement of knowledge. His Lordship, after having satisfied himself that the publication contemplated might fairly be expected to promote the interest of science, recommended the Lords of the Treasury to aid the

colonists in their laudable enterprise. The proposition of the Right Hon., the then, Secretary for the Colonies was favourably entertained, and ere long I was informed that a portion of the expense of the projected publication would be defrayed by Government, in order that it might be sold at a price which would place it within the reach of the generality of naturalists. On the receipt of this information, I proceeded to make arrangements with a publisher ; and, on the approval by Government of the terms proposed, the materials for the first part were placed in the hands of Messrs. Smith, Elder & Co. At this time I expected to be able to complete a part of the work every second month ; but scarcely was the second part commenced, when serious disease rendered me unequal to almost any exertion, and no sooner was I differently circumstanced, than I was appointed to fill a highly responsible and onerous position, which required so much time, that little leisure could be devoted to the publication I had undertaken. I think it necessary to state these facts, in order that the Subscribers to the work may understand why it has been extended over so long a period.

All the illustrations, with a few exceptions, have been executed by Mr. Ford, who, it has already been stated, made the drawings ; and I feel confident that purchasers will not regret his having been selected. A cursory survey of the plates will, I think, convince any one that they are the production of a master's hand—a hand that depicts nature so closely as to render the representation nearly, if not equally, as valuable as the actual specimen.

In describing colours, I have almost invariably had reference to the little but useful work of Mr. Syme, of Edinburgh,* and always employed his

* "Werner's Nomenclature of Colours." Second Edition, 1821.

nomenclature, so that the reader, with this publication in his hand, will understand exactly what are the colours indicated.

Some of the objects described were collected in the Cape Colony; others in Kaffirland, a district of country lying along the sea-coast to the eastward of the colony; others near Port Natal; but the majority on the belt of country which was explored by the expedition already mentioned, which was in breadth nearly 3 degrees, and in length $7\frac{1}{2}$; or, in other words, the country lying between 25° and $27^{\circ} 58'$ east longitude, and 31° and $23^{\circ} 28'$ south latitude.

Considering that the Association contributed not merely the principal but the greater part of the novelties, and that its members incurred great expense to acquire them, without any prospect of individual advantage, I feel it a duty to embrace this opportunity of not only recording that fact, but also the names of those, who, though residing in a distant part of the globe, are not indifferent to the promotion of discovery and the advancement of science. In doing justice to them, however, I must not fail, at the same time, to discharge a like duty to a resident of this country, who contributed in a greater proportion than any other individual to whatever success attended the exertions of the Association,—I allude to Mr. Jameson, of Liverpool, who spontaneously transmitted to the Society, through Mr. M'Queen, the sum of two hundred pounds, to be employed in furtherance of African discovery.

The plates, as it will be observed, have been published in five divisions, viz., Mammalia, Aves, Reptilia, Pisces, and Invertebratæ. Those of each division have been numbered independently, and the letterpress descriptions left unpagged, in order that they may be arranged according to the particular view of purchasers. An index to each division is given, so

that zoologists may, if disposed, have the plates arranged in four volumes :—Volume 1, Mammalia ; 2, Aves ; 3, Reptilia ; and 4, Pisces and Invertebratæ.

The necessity of bringing this work to a close without containing more than one part on the Annulosa of South Africa, from the pen of my friend, W. S. Macleay, Esq., will, I am aware, cause deep disappointment to naturalists. The rapid sale of the only part he was able to furnish before he left this country for a distant colony, and the impossibility of now procuring a copy of it, affords not only the strongest possible proof of its great merit, but also an evidence of the estimation and respect in which its author is held.

ANDREW SMITH, M.D.

30th November, 1849.



RHINOCEROS KEITLOA
(Mammalia Plate 1)

RHINOCEROS KEITLOA.—SMITH.

MAMMALIA.—PLATE I. (MALE.)

Rh. pallidè brunneo-flavus; cornubus duobus longitudine subæqualibus; anteriore cylindrico, posteriore compresso; labii superioris parte anteriore productâ acuminatâ.

LONGITUDO corporis cum capite 11 ped. $1\frac{1}{2}$ unc., caudæ 26 unc., cornuorum 21 unc. — ALTITUDO 5 pedes.

RHINOCEROS KEITLOA.—Rep. of Exped. page 44. June 1836.

COLOUR.—Pale brownish yellow, the brown most distinct upon the head; the inner sides of the extremities towards the body and the groins somewhat flesh-coloured; the inner sides of the knee joints and the hinder part of the thighs immediately above the joints pale livid black. Eyes dark brown. Horns dark greenish brown.

FORM, &c.—Figure nearly that of *Rhinoceros Bicornis*, Auct. Skin destitute of hair, rough and slightly irregular, the surface exhibiting a reticulated appearance, arising from the number of waved or angular fissures by which it is every where impressed, but more particularly upon the shoulders and outer surfaces of the hinder extremities. The lower portion of the neck is marked by several wide vertical furrows, which admit of the head being turned to either side with greater facility; several of a much smaller size also occur towards the extremity of the muzzle and around the eyes, evidently for the purpose of admitting the upper lip and the eyelids to be moved with greater freedom. Head moderately slender; the eyes very small, and sunk in the orbits; the nostrils are situated near to the extremity of the muzzle, of a somewhat oval form, and rather oblique in relation to the axis of the head. The anterior horn nearly cylindrical, the basal half directed forwards, the distal half slightly curved backwards; the posterior horn towards its base nearly cylindrical, with the distal two-thirds laterally compressed, and having the hindermost edge thinnest. Ears somewhat acuminated, edged with short hair towards their tips; legs rather short; knee joints very large; scarcely any hunch on the shoulders; the neck rather long. Tail cylindrical till

RHINOCEROS KEITLOA.

within a few inches of its extremity, then laterally compressed and margined above and below by strong, short and wiry hair.

DIMENSIONS.

	Feet.	Inches.		Feet.	Inches.
Length from the tip of the nose to the			Length of the anterior horn, following		
base of the tail	11	1½	the curve	1	9¼
of the tail	2	2	of the posterior horn.....	1	9
from the tip of the nose to the			Height at the shoulder	5	0
hinder edge of the occiput..	2	7½	at the crupper	4	10
from the hinder edge of the			Circumference at the middle of the		
nostril to the eye	0	11¼	belly	9	8
from the eye to the ear.....	0	11¼			

The only species yet known with which the present could be confounded, is the *Rhinoceros Bicornis* of authors. Between them, however, many well marked differences are to be discovered; but as it is our intention to enter more at length on that subject in the Appendix, we shall only here particularise a few of the external and more palpable ones. In the *Rh. Keitloa*, the two horns are of equal, or nearly equal length; in *Rh. Africanus*, the posterior, in neither sex, is ever much beyond a third of the length of the anterior horn; the length of the head, in proportion to the depth, is very different in the two. The neck of the new species is much longer than that of the other, and the position and character of the cuticular furrows, destined to facilitate the lateral motions of the head, are very different. Besides these, many other diagnostic characters might be instanced; such as the black mark on the inside of the thigh of *Keitloa*,—the distinctly produced tip of the upper lip; and the comparatively few wrinkles on the snout and parts around the eyes, when compared with those on the same places in *Rh. Bicornis*, as will be seen by comparing the representation of the present species with the next plate.

Considering the acumen which savages display in detecting differences between animals nearly related, we may, with propriety, infer that the Keitloa has not, at least for many years, been in the habit of generally extending his range higher than about 25° south latitude.* The natives at and around Latakoo are only acquainted with two species, viz. Borili (*Rhinoceros Bicornis*, Auct.) and Mohoohoo (*Rhinoceros Simus*, Burch.); and those who were in our employ declared, when they first saw the *Keitloa*, that it was not an animal of their country; and at once enlarged upon the points in which it differed from Borili. During the discussion, an intelligent Moharotsi, who was well acquainted with the animal, approached,—called him by his name, and referred us to districts where we should find specimens in abundance. As he stated, it happened;

* That individuals of this species have approached Latakoo, or rather the country some sixty miles to the north of 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.

RHINOCEROS KEITLOA.

though every where the species appeared rare when compared with the others ; and, after several months' wanderings, it was found that only sixty-eight individuals had been seen, eight of which in one herd, (two of them, not more than half grown,) were disturbed by myself when feeding near to the banks of a river we were descending. According to the evidence of the natives, the *Keitloa* is of a very savage disposition, on which account it is more feared than *Borili*, which has also a character for ferocity. Its food consists of small shrubs, or the more delicate branches of brushwood, in collecting which, the prolongation of the anterior extremity of the upper lip proves a useful assistant. For a more detailed account of the manners and habits of this species, we may refer to the Appendix hereafter to be published.

While in the neighbourhood of the Tropic, we heard of two other species of the genus, which exist still farther to the northward ; but, unfortunately, could not obtain any very circumstantial evidence concerning them, as the persons who had seen them were only on a visit in the country they inhabit. One of them was stated to approximate the *Keitloa* ; the other was described as very different to any species previously seen by them, and to have only one long horn towards the forehead. Now, though descriptions of objects furnished by such persons are often inaccurate, from the circumstance of their not having been favourably situated for making correct observations, as well as from a deficiency of language calculated to convey the information they actually possess, I have always remarked that even a hasty examination seemed to supply the savage with more accurate notions of the general characters of animals than it did the civilized man, and therefore I do not despair of species such as they mentioned being yet discovered.

It is in regard to the species with the single horn, that we experience the greatest hesitation in receiving their evidence as credible, and, therefore, it is agreeable to have it corroborated by the testimony of a man from a very different part of the country, as obtained and published by a missionary of great research who resided a long time in Madagascar. The individual who furnished Mr. Freeman with the account of the *Ndzoo-dzoo*, was a native of the country northward of Mozambique, and if we admit certain portions of the descriptions to be tainted with errors, we can recognise in the remainder the genuine habits of a Rhinoceros, and probably one of the species, with which our informants were slightly acquainted.

"It appears," observes Mr. Freeman, "that the *Ndzoo-dzoo* is by *no means rare* in Makooa. It is about the *size of a horse*, extremely *fleet* and *strong*. It has *one single horn* projecting from its forehead, from twenty-four to thirty inches in length. This is flexible when the animal is asleep ; it can be curled like the trunk of the Elephant, but becomes perfectly firm and hard when the animal is excited, and especially when pursuing an enemy. Its disposition is extremely *ferce*, and it universally *attacks* man if it sees him. The usual method of escape adopted by the natives is, to climb up a dense and high tree, so as to avoid, if possible, being seen. If the animal misses his sight of the fugitive, he immediately gallops off to his haunt ; from whence it may be inferred that he is not endowed with the power of a keen scent. Should he, however, espy his object in the tree, woe to the unfortunate native,—he begins to *butt with his horns*,—strikes and penetrates the tree, and continues piercing it till it falls, when his victim seldom escapes being gored to death. Unless the tree is of a large girth, he never fails in breaking it down. Having killed his victim, he leaves him without devouring the carcase. The male only is provided with the horn. The female has not anything of the kind."*

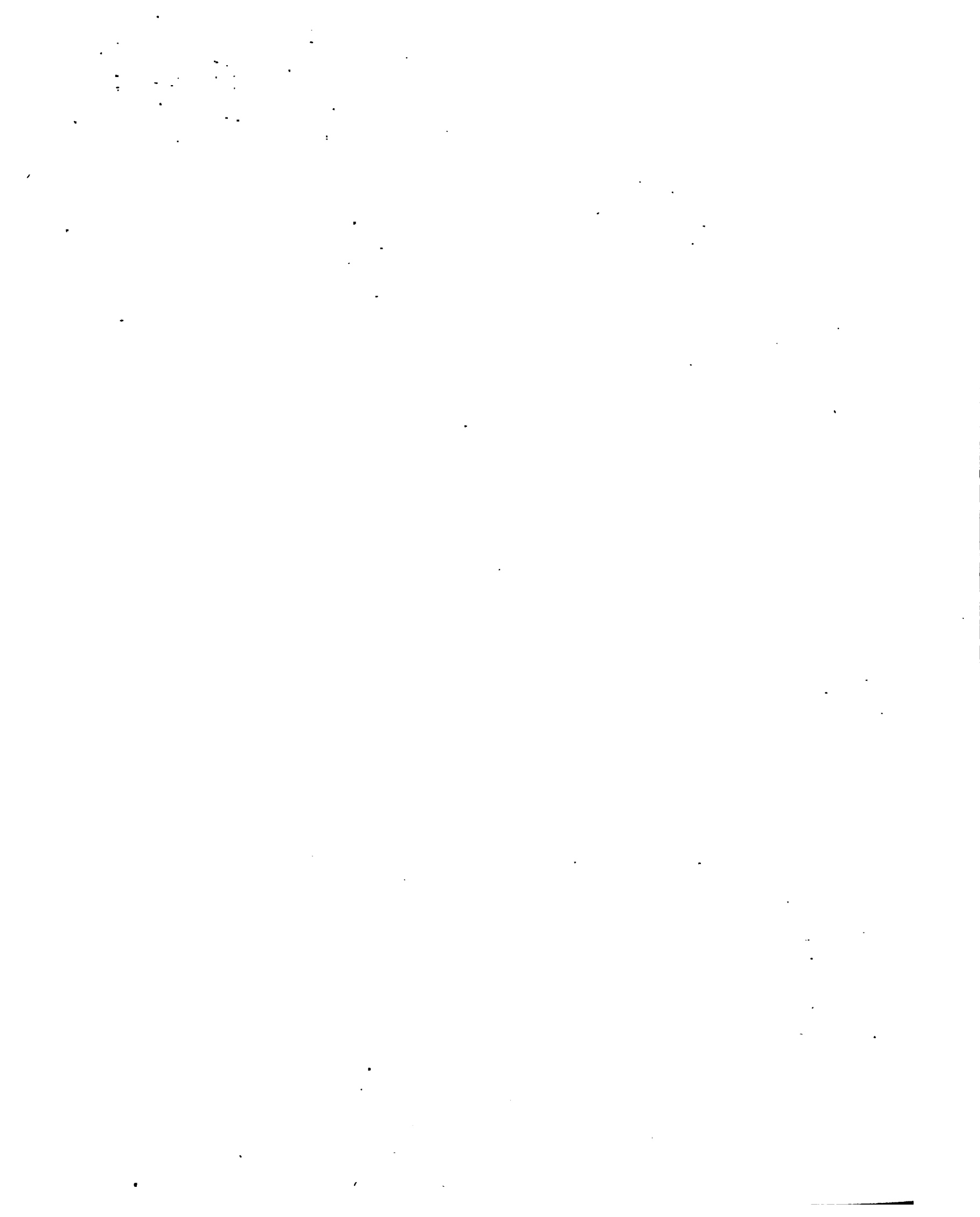
* South African Christian Recorder, Vol. i. p. 33.

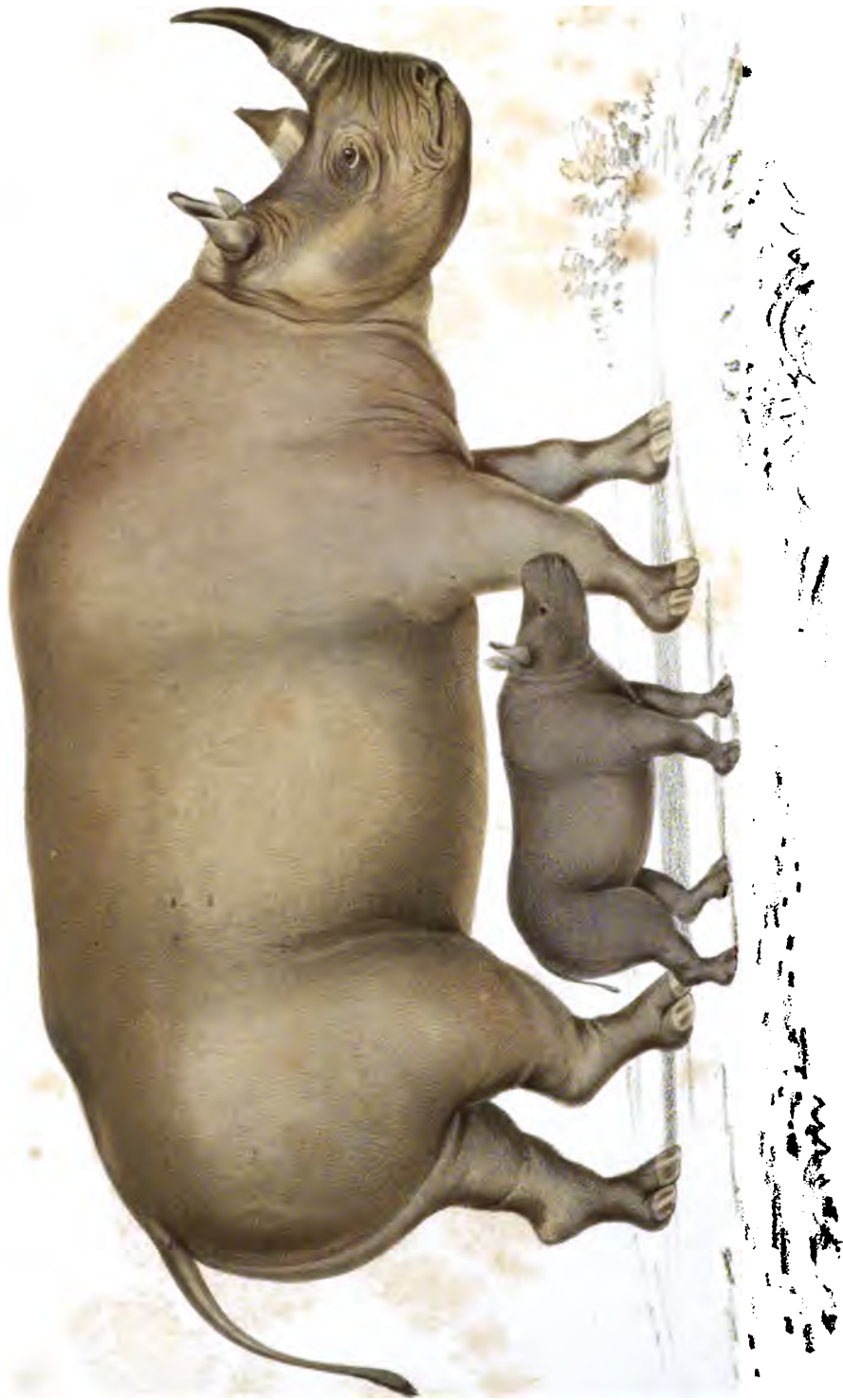
RHINOCEROS KEITLOA.

With respect to the other Rhinoceros which was said to exhibit a resemblance to the Keitloa, it may probably be found to belong to a species which has its principal *habitat* in northern Africa, a conclusion to which we have been led from an examination of a pair of horns contained in the museum of the College of Surgeons of London, and which were obtained in Abyssinia, by Mr. Salt. These horns differ considerably from the horns of *Rh. Bicornis*, while as regards form, they approximate those of *Rh. Keitloa*. Another pair of horns, probably of the same species, is preserved according to Spaarman,* in the cabinet of the Royal Academy of Sciences, the foremost of which is twenty-two inches in length, and the hindermost sixteen. The distance between these horns is scarcely two inches. They differ likewise, he adds, "from the horns I saw in Africa, and from those I brought with me, in being of a lighter colour, and straight, and at the same time flat on the sides; so that the hindmost horn in particular, has pretty sharp edges on the upper part, both before and behind. These horns most probably came from the northern parts of Africa, as they were purchased at Naples," &c. Different again from the above, and from all Rhinoceros horns I have yet seen are two, contained in the British Museum, which were obtained by Major Denham during his journey in Northern Africa; and if they do not prove to have belonged to young individuals of *Rh. Simus*, they will require to be referred to a species not yet characterised; they are of a lighter colour than any horns which I have had an opportunity of examining, and along with a peculiarly corneous aspect, they have a considerable degree of semi-transparency. The horns of *Rh. Simus* possess more of the above characters than any others yet known, which circumstance, together with the fact of which I have been informed by R. Owen, Esq. F.R.S. that clubs of Rhinoceros horn, about three feet in length have been obtained from Western Africa, (Kingdom of Dahomy) would lead to a supposition, that either the species discovered by Burchell, or one with certain of its characters, inhabits Northern Africa.

Now, though I am not prepared to maintain that the horns of each individual of the same species of Rhinoceros are found to be uniform, as regards size and form, or even that the relative lengths of the first and second horns are constant in different animals, yet from what I have observed in the South African species, I do not think we are justified in believing the horns of the same species to be subject to any great variations in respect to relative length. When the Rhinoceros of Abyssinia shall have been minutely examined, it will probably be found to be distinct from *Rhinoceros Bicornis*, Lin., and be identical with the animal stated by the natives who communicated with us near the tropic of Capricorn, to be like the *Keitloa*. The other species of which they spoke will possibly be identical with the Ndzoo-dzoo and a nondescript: while the one, from which were obtained the horns referred to as in the British Museum, may prove either the *Rhinoceros Simus*, or a third undescribed species.

* Voyage to the Cape of Good Hope, by A. Spaarman, M.D. 4to. vol. ii. p. 100.





RHINOCEROS BICORNIS.
(Mammalia Plate 2)

RHINOCEROS BICORNIS.—LIN.

MAMMALIA.—PLATE II.—(FEMALE AND YOUNG.)

R. pallidé flavo-brunneus, cornubus longitudine inæqualibus; collo ad caput sulco circumdato; oculis brunneis.

LONGITUDO 10 ped. 11. unc.

RHINOCEROS AFRICANUS, Cuv. Reg. Animal.

COLOUR.—Pale yellowish brown, with tints of purple upon the sides of the head and the muzzle; the groins flesh-coloured; eyes dark brown; the horns livid brown, clouded with green; the hair on the tip of the tail and the margins of the ears deep black.

FORM, &c.—Head rather deep in proportion to its length, which gives it an appearance of clumsiness beyond either of the other South African species; the anterior horn directly over the extremity of the nose, the first half nearly perpendicular, the last half slightly curved backwards; the posterior horn conical, and often exhibiting an appearance as if the point of a smaller sized cone had been fixed upon the section of a larger one, which observation to a certain extent might also be applied to the front horn; towards their bases both are rough, and more or less distinctly fibrous; towards the points hard, smooth, and finely polished. Eyes small; the skin surrounding them as well as that in front of the ears and on the muzzle and the upper and lower lips, deeply cut by narrow wrinkles; the extremity of the upper lip scarcely produced. The neck is thick, short, and at its junction with the head encircled by a deep furrow formed in the skin; the shoulder with a rudimentary hunch; the body round and heavy; limbs rather shorter in proportion than in *R. Keitloa*. Tail flattened towards the extremity, elsewhere somewhat cylindrical; the upper and lower edges near the tip fringed with thick wiry hair. The surface of the skin rather rougher than in the species last described, owing to its being intersected by a greater number of wrinkles.

DIMENSIONS.

	Feet. Inches.		Feet. Inches.
Length from nose to root of tail	10 11		Length of anterior horn..... 1 7
Height at the shoulder	4 10		of posterior horn
			0 6½

The relative lengths of the horns vary a little in different individuals, but the hindermost one in both sexes is invariably much the shortest, and in

RHINOCEROS BICORNIS.

young specimens it is scarcely visible when the other is several inches in length. In the *Rhinoceros Keitloa*, again, the young have both horns of equal length.

The present species, under the name of *Rhinoster*, has been familiarly known to the colonists of the Cape of Good Hope ever since 1652. In that year, when the Dutch first formed their settlement on the shores of Table Bay, this animal was a regular inhabitant of the thickets which clothed the lower slopes of Table Mountain. The abandonment of those spots by this animal as a measure of safety, probably constituted the commencement of a forced migration, which has continued to extend ever since, and which has led not only to the disappearance of the species from the districts within the present colonial limits, but also in a great measure to its removal from countries beyond those limits, as far as hunters efficiently armed are accustomed to resort. If a system, such as has hitherto prevailed, continues to exist, and the larger animals persevere in flying to avoid the effects of fire-arms, the time may arrive when the various species which formerly may have been scattered, each, in a peculiar locality of a large continent, will be huddled together; and indeed an advance towards that period is in progress, as may be inferred from the concentration which is at present taking place in the interior of South Africa. Though many of the individuals which inhabited the countries where now not a single Rhinoceros is to be seen, were doubtless destroyed, yet it is equally certain that many others escaped, and thereby assisted in adding to the accumulation which is in progress in other localities. Until lately the present was the only species of the genus which was known to be receding from its native country, but of late another has been led to a like course; and the *Rhinoceros Simus* which but a few years ago was common in the neighbourhood of Latakoo, has, since the more general introduction of fire-arms into that country, almost entirely ceased to approach within a hundred miles of it. From a consideration of the various facts which we have collected in relation to the species now under consideration, and which we shall detail more at length elsewhere, we feel disposed to regard it to a certain extent as a prisoner in the country it now inhabits, and are inclined to believe the southern extremity of the continent, and the country along the western coast towards Benguela to have once formed its favourite residence.

Like the *Keitloa*, this species feeds upon brushwood and the smaller branches of dwarf-trees, from which circumstance it is invariably found frequenting wooded districts, and in those situations its course may often be traced by remarking the mutilations of the bushes. As it feeds but slowly, and besides passes much of its time in idleness, it must be regarded as a very moderate eater, and considering it appears to be fastidious in the choice of its food, it is fortunate for its comfort that it does not require more nourishment. Of the many shrubs which exist in the localities in which it resides, few comparatively appear formed for its choice, as it is to be seen approaching many and leaving them again without either injuring a branch or plucking a leaf. This evident nicety in the selection of its aliment makes it difficult to imagine how so many large animals as are sometimes congregated together within a very limited space can find sufficient for their consumption. Even admitting that the reproduction of the parts which the Rhinoceros may devour takes place with uncommon rapidity in the climates they inhabit, and consequently the shrubs are comparatively soon in a condition to supply another meal, yet nevertheless, if these animals consumed in proportion to their bulk, they would of necessity be forced to be less particular in the choice of their food.



PLATE 100
Rhinoceros

RHINOCEROS SIMUS.—BURCHELL.

MAMMALIA.—PLATE XIX.

R. pallidè brunneo-griseus, flavo-brunneo tinctus; aurium marginibus versus apicem, caudâque suprâ infrâque ad extremitatem pilis, rigidis, nigris vestitis; ore bovino; cornibus duobus, anteriore multò longiore; oculis flavo-brunneis.

LONGITUDO corporis cum capite, 12 ped. 1 unc; caudæ, 2 ped. 2 unc.

COLOUR.—Pale broccoli-brown, the shoulders, buttocks and belly shaded with brownish purple; hair edging the ears and the tip of the tail inferiorly and superiorly black; eyes yellowish brown; horns and hoofs intermediate between broccoli and wood-brown,—the hoofs darkest.

FORM, &c.—Figure massive. Head longer but more delicate in proportion than in the other African species; face concave; forehead prominent and gibbous. Ears rather long, ovate and pointed, their edges towards the tips margined with rigid hair. Neck longer in proportion than in the other species, with three well-marked wrinkles on the nape, two of which continue visible almost to the throat. Shoulders elevated into a convex massive hunch; line of the back slightly undulated. Legs stout and the joints strongly developed and clumsy. Tail vertically compressed at the point, and above and below fringed with short wiry bristles. Horns situated close to the anterior extremity of the head, the foremost directly over the point of the nose, and the second immediately behind it; the first is very long, tapered to a point, and slightly curved, the concavity backwards, the second is short, conical, and obtuse at point. Nose truncated, and the mouth shaped like that of an ox, the upper lip being perfectly square, and without the least indication of a rudimentary proboscis. Nostrils rather small, opening laterally.

DIMENSIONS.

	Ft.	In.		Ft.	In.
Length from the tip of the nose to the base of the tail	12	1	Length of the second horn	0	10
of the tail	2	2	Height at the shoulder	5	7
of the first horn	2	11	at the crupper	5	3
			Circumference of the body	12	1

RHINOCEROS SIMUS.

The *female* is coloured like the male, and her horns, though less powerful, are generally longer, especially the anterior one.

Mohoohoo, the name of this species among the Bechuanas, is considered by them to be one of the original animals of their country, and to have issued from the same cave out of which their own forefather proceeded: in this respect they make a difference between it and Keitloa, with whose origin they do not profess to be acquainted. Too much attention cannot be paid to the traditions of savages: what in them often appears calculated only to excite ridicule, may, properly considered, be often made to furnish the most valuable information. Thus, for instance, by attending to what has been termed a useless tradition, we get to know, not merely that the Bechuanas believe the founders of their own nation and the animals of their country originally escaped from a large cave, but also facts of interest touching the geographical distribution of animals, inasmuch as we may rest satisfied, after being aware of the prevalence of the tradition referred to, that all the animals we now find in their country, to whose progenitors the aforementioned birth-place is not assigned, have immigrated thither since the tradition became current. Every portion, however, of such traditions must not be literally received, else we shall find travellers who may hereafter visit South Africa propagating errors not less detrimental to the progress of true science than those which were circulated by Kolben, one of the first Cape historians, whose indiscreet credulity led him, to relate most extraordinary fictions, *inter alias*, one relative to the powers the Rhinoceros exercised over his horns,—powers which, had he ever examined into the manner in which these bodies were connected with the parts around and below them, would have been too clearly imaginary to have warranted even the greatest lover of the marvellous in believing them.

When Mr. Burchell, who first added *Rhinoceros simus* to the African *Fauna*, visited Latakoo, he found it common in that district, and we have been told by the aborigines that it was not unfrequently found even further to the southward. Of late, however, it has almost ceased to exist even in the situations where its discoverer met it, which is accounted for by the danger to which it is exposed being now much increased from the general introduction of fire-arms among the Bechuanas.

The facility of discriminating this species is great: the extraordinary length of the first horn and the hunch on the shoulders are sufficient, even in the distance; but on a nearer view additional characters are at once visible; among those the peculiar configuration of the mouth is the most palpable. The form of the latter at once suggests the kind of food upon which the animal probably subsists, and an examination of the contents of the stomach, which are principally grass, confirms the accuracy of the inference. Localities abounding in grass are therefore the haunts of the Mohoohoo, and to enjoy them throughout the year he is necessitated to lead a more wandering life than the two species already figured.