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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:”

TOGETHER WITH

A SUMMARY OF AFRICAN ZOOLOGY,

AND AN INQUIRY INTO THE GEOGRAPHICAL RANGES OF SPECIES
IN THAT QUARTER OF THE GLOBE.

BY ANDREW SMITH, M.D.,

SURGEON TO THE FORCES, AND DIRECTOR OF THE EXPEDITION.

Published under the Authority of the Lords Commissioners of Her Majesty's Treasury.

LONDON:

SMITH, ELDER AND CO. CORNHILL.

MDCCCXXXVIII.



Prospectus of "THE ZOOLOGY OF SOUTH AFRICA."

THE Cape of Good Hope is now acknowledged to be one of the greatest avenues as yet opened for the researches of the Naturalist. Our Colony in that part of Southern Africa is the key to a large portion of an extensive continent which is still but very partially explored; and the field to which it admits the scientific traveller is rich to exuberance in the variety and novelty, both of animal and vegetable life.

Stimulated by the prospect of Discovery in a quarter so fertile in interest, "*The Cape of Good Hope Association for Exploring Central Africa*" was established in 1833; and in 1836, an Expedition fitted out by that body, consisting of thirty-four persons, and directed by Dr. Smith, after an absence of nineteen months, and penetrating as far as 23° 28' South latitude, returned to Cape Town laden with a variety of curious and important specimens in Natural History, &c.

Previously to this period little information has been furnished, in a shape calculated to enable the public to form accurate ideas of the various animated beings by which these regions are inhabited. The splendid publication of Le Vaillant, no doubt, should be mentioned as forming an exception, *pro tanto*; but this includes only a portion of the Birds of the most southern extremity of the country, and a work therefore extensive enough to comprehend the various departments of Zoology is still a desideratum.

The Members of *The Cape of Good Hope Association for Exploring Central Africa* found themselves, on the return of the recent Expedition, in a situation to supply at least some portion of the existing deficiencies; but their funds, even if it had been possible to divert them to such an object, were altogether inadequate to defray the expense of laying the result of their labours before the world. Under such circumstances, it was decided that Dr. Smith, the director of the Expedition, should be authorised, on his arrival in England, to wait upon Lord Glenelg, for the purpose of making him acquainted with the position and views of the Society, in the hope that Government might be induced to assist in the publication of their materials.

This hope has not been disappointed. At the recommendation of the Secretary of State for the Colonial Department, the Lords Commissioners of Her Majesty's Treasury have been pleased, by a pecuniary grant, to enable the Society to publish the result of its labours, without infringing upon the funds raised solely for the purposes of discovery; and in a form which, while it places the work within reach of most of the friends and promoters of science, will not, it is hoped, be found inconsistent with the interest and importance of the subject.

The materials for the work now offered, under such patronage, to the public, will consist of pictorial illustrations of between three and four hundred subjects of the animal kingdom, all of which have been collected to the south of 23° 28' South latitude; and will comprise,

First, and principally, unknown animals;

Secondly, animals known, but not yet figured; and

Lastly, such as have been imperfectly figured; but of which the Society is in possession of accurate drawings.

The Entomological portion of the work will be from the pen of W. S. Macleay, Esq., who has kindly undertaken that department. The rest of the descriptions will be furnished by Dr. Smith, who will add a summary of African Zoology, and an inquiry into the Geographical ranges of species in that quarter of the Globe.

Conditions of Publication.

The Work will appear in periodical parts, price ten shillings each; and it is estimated that it will be completed in about thirty-four parts. As it will be necessary that the plates be published promiscuously, they will be arranged in five divisions, viz. MAMMALIA, AVES, PISCES, REPTILIA, and INVERTEBRATA. The plates of each of these divisions will be numbered independently, and the letter-press descriptions left unpagged, so that on the work being completed, they may be arranged either agreeably to the general classified order which will accompany the last number, or according to the particular views of the purchasers.



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.

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And Twenty Hottentots.

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BY ANDREW SMITH, M.D.,

DEPUTY INSPECTOR GENERAL OF ARMY HOSPITALS;

DIRECTOR OF THE EXPEDITION.

Published under the Authority of the Lords Commissioners of Her Majesty's Treasury.

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MAMMALIA. — INDEX.

	PLATE		PLATE
Aigoceros equina	27	Kobus ellipsiprymnus female	29
Boselapus Oreas, male	40	Macroselides typicus	10
————— female	41	————— rupestris	11
Bubalus Caama	30	————— Intufi	12
————— lunatus	31	————— brachyrinchus	13
Catoblepas Taurina	38	————— Edwardii	14
Cephalopus Natalensis	32	————— (Anatomy of)	15
Chrysochloris villosa	9	Manis Temminckii	7
Cynictis Ogilbyii	16	Miniopterus dasythrix	52
————— lepturus	17	Mus pumilio	46
Damalis (Strepsiceros) Capensis, male	42	—— dorsalis	46
————— female	43	—— Lehoela	47
Dendromys typicus	34	—— Natalensis	47
————— melanotis	34	—— Colonus	47
Dysopes Natalensis	49	Otomys albicaudatus	33
Erinaccus frontalis	3	Petromys typicus	20
Euryotis irroratus	22	————— (Anatomy of)	21
————— unisulcatus	23	Pteropus Leachii	48
————— Brantsii	24	Rhinoceros Keitloa	1
————— Anatomy of	25	————— bicornis	2
Galago Moholi	8	————— simus	19
————— Anatomy of	8	Sciurus Cepapi	5
Gerbillus auricularis	26	Scotophilus Dinganii	53
————— Afer	35	Sorex Mariquensis	44
————— montanus	36	—— varius	44
————— tenuis	36	—— Capensis	45
Graphiurus Capensis	39	—— flavescens	45
Herpestes badius	4	Vespertilio lanosus	50
Hippotamus amphibius	6	————— minutus	51
Kobus ellipsiprymnus, male	28		

• • Plates 18 and 37 not published.







RHINOCEPUS KEITLOA
(Mammalia. Platel)

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

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 *fierce*, 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."*

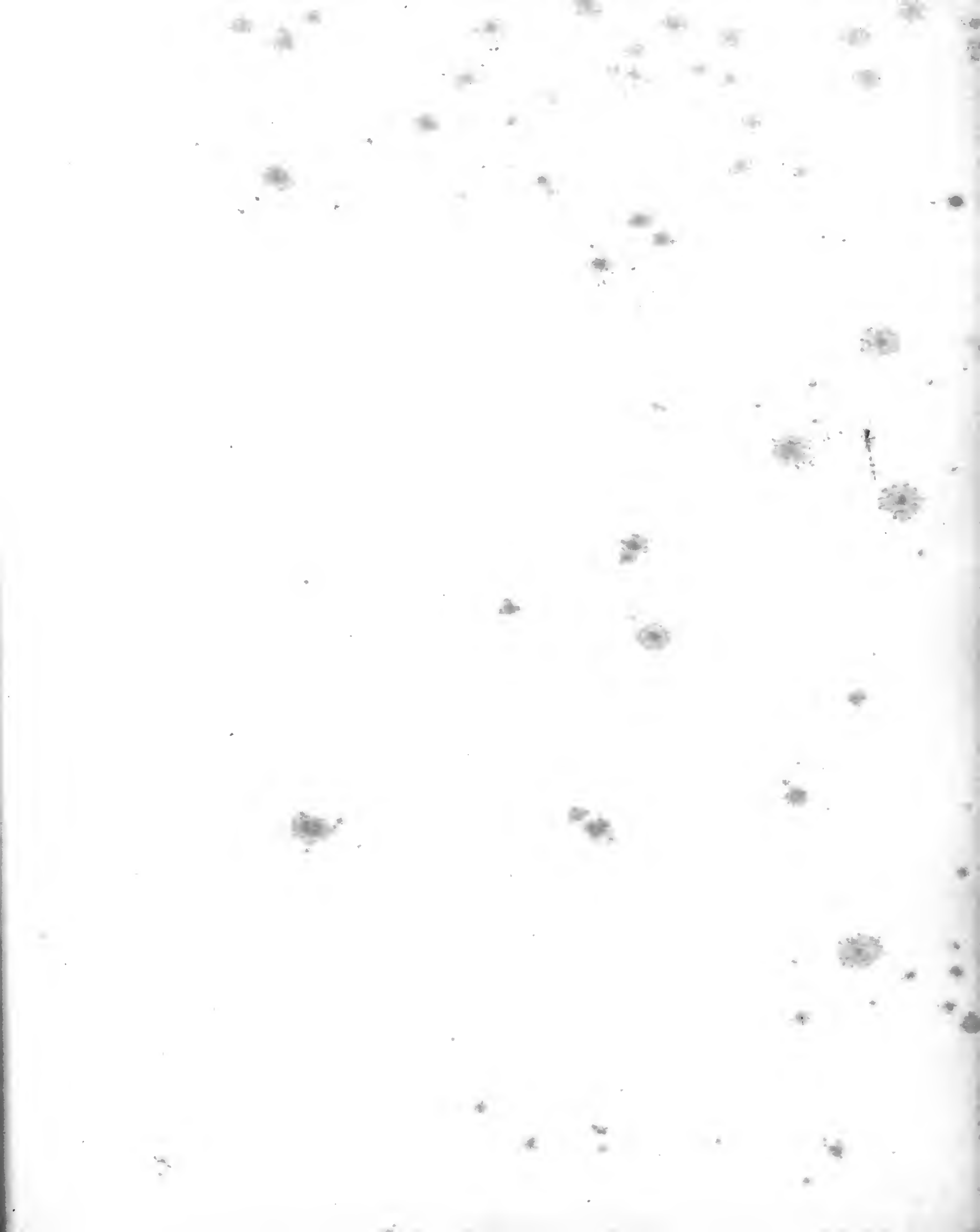
* South African Christian Recorder, Vol. i. p. 33.

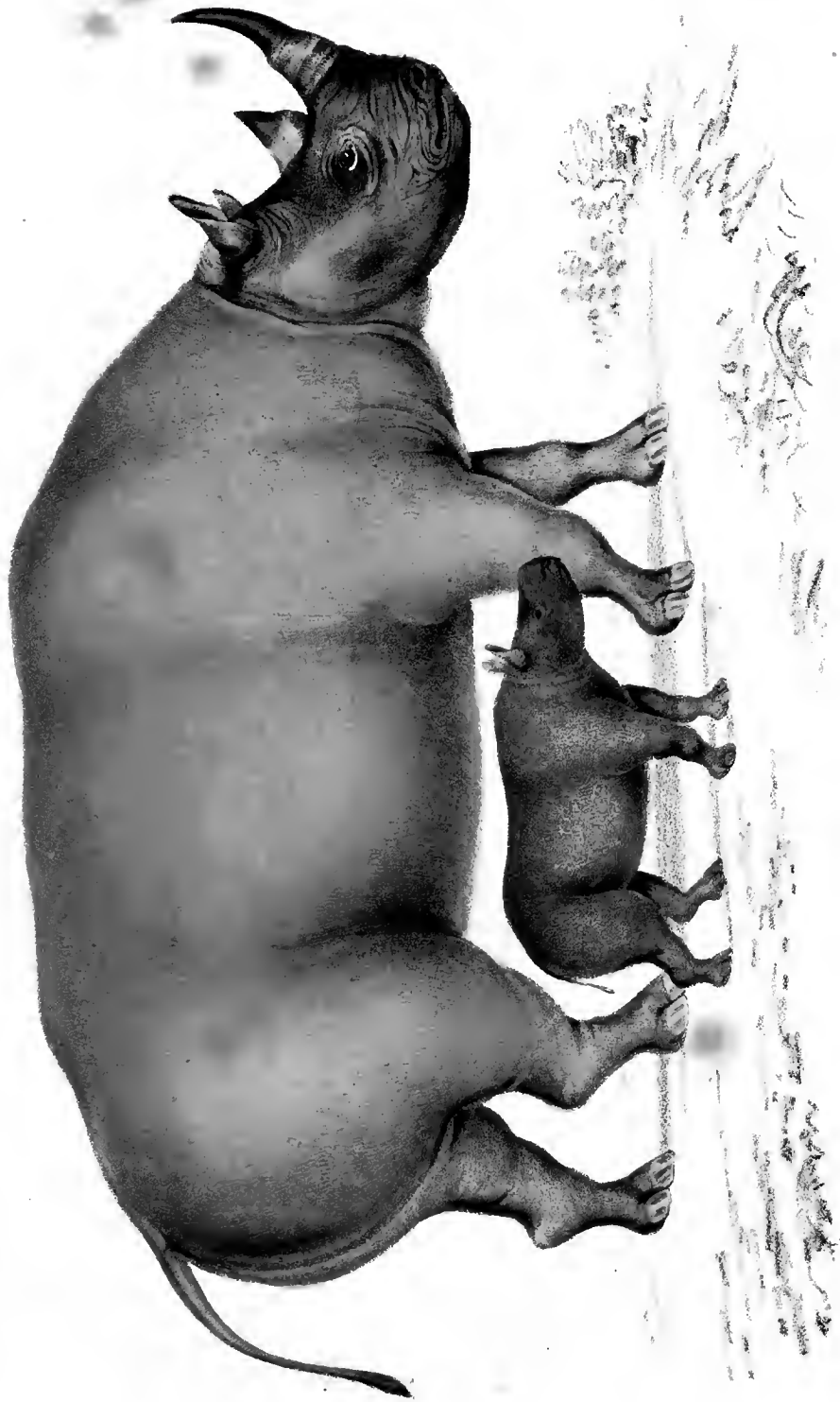
RHINOCEROS KEITLOA.

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 hindmost 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. pallidè 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.





ERINACEUS FRONTALIS

(Mammalia — Plate 3.)

ERINACEUS FRONTALIS.—SMITH.

MAMMALIA.—PLATE III. (FEMALE.)

E. ovatus; spinis varié intertextis ad basin et versus apicem albis, in medio purpurascens, apicibus quibusdam brunneis reliquis albidis; pilis rigidis subnigris aut griseis; fasciâ frontali albâ; auriculis oblongis pilis brevibus obtectis.

LONGITUDO $7\frac{1}{2}$ unc.

ERINACEUS FRONTALIS, *Smith*, South African Quarterly Journal, No. 5. Oct. 1831.

ERINACEUS FRONTALIS, *Bennet*, Proceedings Zoological Society, Dec. 1832.

COLOUR, &c.—The head and the sides of the neck and of the body blackish brown, slightly variegated by an intermixture of greyish white hairs; the forehead and the sides of the neck, immediately under the ears, pure white; the quills of the back white, each annulated towards the middle with purple, the points of many of them light brown. The under surface of the neck, the middle of the breast and belly, and the lower half of the limbs dusky white; tail black; eyes very deep brown; claws horn-coloured.

FORM, &c.—Body oval, broadest behind and wider in proportion to its length than in the common *Hedge-hog*. Muzzle slightly elongated; incisors of upper jaw much separated, those of lower jaw nearly contiguous; ears moderately long, and both surfaces thinly covered with short hair, the tips somewhat rounded. The back and the upper part of the sides densely covered with spines from an inch to an inch and a half in length, the rest of the body, the legs and the head thinly coated with bristly hair; tail slender; limbs very long; toes short; claws blunt and slightly curved.

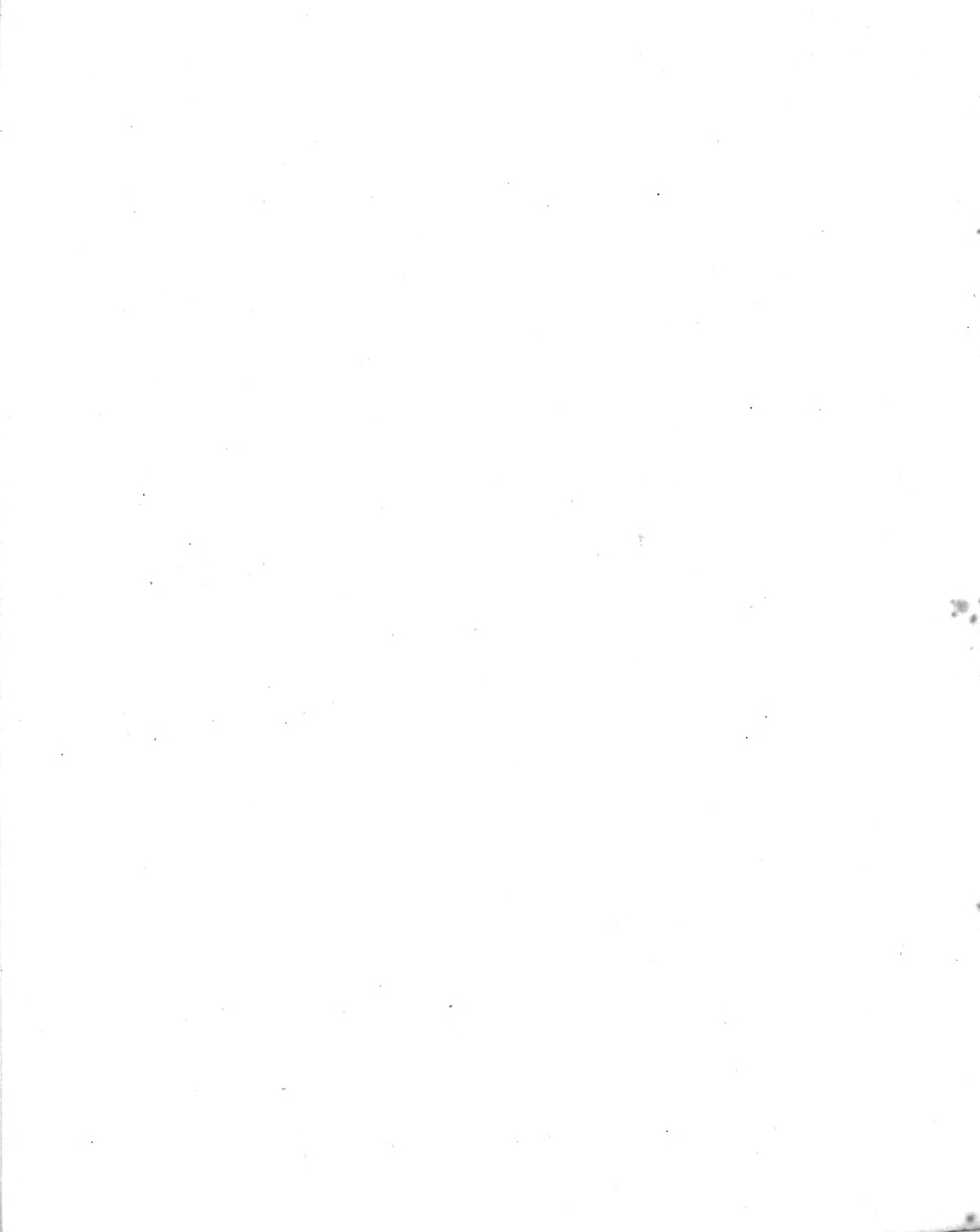
DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the nose to the			Distance between the tip of the nose		
base of the tail	7	6	and the eye	1	3
of the tail	0	6	the eye and the ear...	0	9
			Height at the middle of the back.....	0	5

The *male*, as regards the colours, is like the female.

ERINACEUS FRONTALIS.

This little hedge-hog was first obtained in the districts around Old Latakoo, and on leaving that place, no additional specimens were acquired. Even where it was best known only a very few individuals were procured, and according to the natives it was every where rare. It has all the habits of the common hedge-hog, (*Erinaceus Europæus*, Lin.) and like it, when surprised, rolls itself up into a globular mass, in which state it will often remain for hours together while the object creating its fears continues near it. Some individuals however, are less timid, and soon attempt to escape.





HERPESTES BADIUS.
(Mammalia - Plate 4)

HERPESTES BADIUS.—SMITH.

MAMMALIA.—PLATE IV. (FEMALE.)

H. badius, subtus pallidior, ad fulvum transiens, dorsi, caudæque pilis sordide flavo et nigro-annulatis; caudæ apice nigro; oculis rubris.

LONGITUDO corporis cum capite 12 unc., caudæ 12 unc. 4 lin.

ICHNEUMON RATLAMUCHI, App. to Rep. of Exped. page 42, June 1836.

COLOUR.—Above bright bay, beneath lighter, inclined to fulvous; extremity of the tail shining black. On the head, upper part of the neck, and limbs and tail, the colour is darkest; on the back and upper part of the sides it is slightly variegated by a fine pencilling of dull yellow and black; each, or at least most of the hairs being annulated with these two colours in addition to the bay which is the prevailing tint. Towards the root of the tail the hairs are marked after the same fashion, only the quantity of brown is greater; whiskers black. Ears coloured like the body; eyes red; nails a dark horn colour.

FORM, &c.—Figure very slender; head short, broad between the ears and slender towards the muzzle; ears very short; legs of moderate length; nails nearly straight. The hair is slightly rigid; on the head it is short, on the body considerably longer, and on the posterior portion of the back, outer surface of the thighs and the tail it is longest, on some places measuring fully three inches. On the tail it is laid close, so that though long, this part of the animal is nevertheless moderately slender. On the ears the hair is very short, and on their posterior surfaces is almost wanting.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the nose to the			Distance between the point of the nose		
root of the tail	12	0	and the eye	0	10
of the tail	12	4	between the eye and the upper		
Height at the shoulder	4	2	extremity of the ear.....	0	10

HERPESTES BADIUS.

The adults of both sexes are nearly alike in regard to colour and size. In the young animal there is a distinct reddish cast over the whole body, but it is much broken by the yellowish and brownish rings which occur on each hair and which appear in this age upon the head and thighs as well as the back.

At one time I was disposed to regard our animal as identical with *Herpestes ruber*, Desm.,* but upon comparing it with the description of the latter as furnished by the author just quoted, I found it to differ in many points. In our species, the body, as will be seen by a reference to the measurements, is shorter than the tail; in that of Desmarest, the tail is four inches shorter than the body; in ours, the tip of the tail is deep black; in his, that part is not described as being of a different colour to the rest of the animal.

The first specimen of this species we obtained was killed near Old Latakoo, and several others were seen between that and Kurichane, which lies about 120 miles more to the eastward. The animal appeared restricted to dry sandy districts abounding in brushwood, and in these, was occasionally seen running from one copse to another. It is extremely shy, and flies on the approach of man to its hiding places with great rapidity; hence only a very few specimens were obtained. Nothing except the remains of insects were found in the stomachs of those we procured; but if the natives are to be believed, it feeds with avidity also upon lizards, snakes, mice, &c.

In addition to this and another new species which we shall hereafter figure, five others inhabit the South of Africa, namely, *Herpestes Pharaonis*, Desm., *H. griseus*, Desm., *H. urinator*, Smith, *H. tainianotus*, Smith, and *H. albicaudis*, Smith.† Before long, however, there is every reason to expect additional species will be added to the preceding, as the Bechuanas‡ described to us several little quadrupeds clearly differing from any of the foregoing, yet doubtless belonging either to this genus or to *Cynictis* of Ogilby.

* Encyclopedie Methodique, (Mammalogie, fol. 213.)

† South African Quarterly Journal, New Series, No. 2, part 1, March 1834.

‡ The native tribes (not including the Hottentots) immediately north of the colony. Bechuana is the term which has been invented by themselves to indicate all the clans in that direction who resemble each other in external appearance, and speak the same language. The import of the word proves the propriety of its application, *bechuana* being the plural of *chuana*, signifying alike or similar.





SCIURUS CEPAPI.
(Mammalia — Plate 5)

SCIURUS CEPAPI.—SMITH.

MAMMALIA.—PLATE V. (MALE.)

S. supra ochreus, brunneo-nigro leviter marmoratus; corporis lateribus pedibusque ochreis; labio superiore, striâ superciliari, corporisque partibus inferioribus albis, ventre flavo-tincto; caudâ distichâ, ochreâ brunneo-nigro variegatâ; auriculis brevibus, apicibus obtusis, margine externo versus apicem emarginato; oculis brumeis.

LONGITUDO corporis cum capite $7\frac{3}{4}$ unc., caudæ 7 unc.

SCIURUS CEPAPI, App. to Rep. of Exp. page 43, June, 1836.

COLOUR.—Face ochry yellow, pencilled with black; the upper part of the head and neck, the back and the flanks grizzled light ochre-yellow and brownish black, each hair being brownish black at the base, then ochry yellow, then brownish black, and finally ochre-yellow; some have their extreme points blackish brown; the upper surface of the tail is also grizzled in the same manner as the back, only the proportion of the brownish black colour is greater, and hence the dark colour is there more conspicuous, and gives rise in some specimens to the appearance of a number of irregular dark bars; the upper lip, a short stripe over each eye, the chin, the throat, the breast, the belly, and the inner sides of the legs white, sometimes faintly tinged with yellow; the sides of the head, neck and body, and the outer and hinder sides of the legs ochre-yellow; the hair of the hinder legs deep black at its base; anterior surface of ears pale yellowish white; posterior surface dull white; incisor teeth reddish orange; eyes dark brown; whiskers black; nails deep brown.*

FORM, &c.—Figure rather slender; head small; the anterior molar of the upper jaw very small, subcylindrical with the crown entire; the remaining four concave, the crowns towards the outer sides divided each into two portions by a fine transverse groove; the anterior molar of the lower jaw semi-cylindrical, the crown divided into three tubercles; the other three molars on each side nearly similar to those of the upper jaw; ears short, with a slight emargination in the outer edge a little below their points; the latter

* The tints vary a little in different specimens.

SCIURUS CEPAPI.

obtuse ; legs long ; tail depressed, narrow, slightly distichous and pointed at its extremity ; two centre toes of equal length, those of the hinder feet but little longer than the toe on each side of them ; the difference is greater on the fore feet ; nails strong and much curved. The hair is slightly rigid, and shortest on the head and feet ; on the back and under parts it is rather longer, while on the outer sides of the hinder legs, particularly towards the base of the tail and on the tail itself, it is much longer still.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the nose to the			Length of the fore legs to the tip of		
base of the tail	7	9	the toes.....	2	3
of the tail	7	0	the hinder legs to ditto.....	3	0
of the cranium	1	9	the tarsus of fore foot	0	6
Breadth between the hinder extremities			the hinder foot	0	10
of the zygomatic arches ...	0	11			

The female, as regards colour and size, resembles the male, and like the latter is liable to some variation in respect to tints.

The first specimens of this squirrel were observed upon the immediate banks of the Limpopo river, in about 24° 20' south latitude. The species was occasionally discovered upon the ground, but more frequently upon trees ; and when it happened to be surprised in the former situation, it invariably endeavoured to reach the latter, and if successful, either attempted to conceal itself in the forks of the branches, or in holes, if any existed, in the trunks, or other parts. Its flight, when on the ground, was effected with amazing rapidity, and the perpendicular ascent of the tree was accomplished with equal facility. It feeds by day, and, according to the natives, also by night, and in all the specimens we obtained, the stomachs were fully distended with berries, &c.



HIPPOTAMUS AMPHIBIUS
(Mammalia. Plate 6)

HIPPOPOTAMUS AMPHIBIUS.—LIN.

MAMMALIA.—PLATE VI. (FEMALE, AND YOUNG.)

H. capite, colli partibus superioribus, dorsoque brunneo-rubris; corporis lateribus artibusque pallidè brunneo-purpureo-rubris; abdomine, labiorum lateribus, palpebrisque pallidè flavo-brunneis; caudæ auriumque pilis nigris; nasi pilis flavo-brunneis. Oculis aurantio-brunneis.

LONGITUDO 11 ped. 4 unc.

HIPPOPOTAMUS CAPENSIS, Desmoulins.

BEHEMOTH of the Hebrews.

COLOUR, &c.—The anterior and lateral parts of the head, and the upper parts of the neck and body brownish red, the former rather lightest. The brownish red of the back passes insensibly into a light brownish purple red, which is the colour of the sides and limbs; the belly, the sides of the lips, and the eyelids light wood-brown, with a faint flesh-coloured blush; the hinder parts of the body and the belly are freely freckled with small spots of the same hue as the ground colours, only of darker tints; hairs of tail and ears black; pencils of hairs on lips, &c., yellowish brown; eyes a clear orange-coloured brown: hoofs dark horn-colour.

FORM, &c.—Figure massive and very heavy, and the entire contour of the animal suggests to the observer the idea of a form intermediate between an overgrown pig and a high-fed bull, without horns and with cropped ears. The head appears broad, compared with its length, and the expression of the face is singular and unlike that of any other animal, arising principally from the high position of the eyes. The lips, especially the upper one, are thick and bulging, particularly their sides, so that when the mouth is shut even the longest of the teeth are concealed; the nose is broad, and inclined to truncated, and the gape is very wide; the head immediately behind the angles of the mouth is considerably contracted, and the forehead is broad, flat and high; the eyes and ears are very small, and the former are placed before, and but little below the level of the latter; the ears are extremely short, and their tips rounded, appearances which insensibly lead to the idea that some portion of them must have been cut off; their edges are fringed with fine hair, and their inner surface is thinly coated with a similar material; the eyelids are prominent and pulpy, which makes the eyes appear as if they were deeply seated, though, as regards the orbit, they are not in reality so. The neck is short, thick, and rounded; the line of the back is slightly arched and rather undu-

HIPPOPOTAMUS AMPHIBIUS.

lated towards the tail. The body almost cylindrical, and the nates are very full, and behind slightly arched; the legs are remarkably short, so that when the animal is standing, the most depending part of the belly almost touches the ground; the tail is short and moderately robust,—towards the point, vertically compressed and edged above and below with wiry hairs,—towards the base, nearly cylindrical; teats two, placed close to each other, and pendent from the udder nearly on a line with the anterior edge of the hinder leg. On the lips there are a number of small tufts of fine hair, resembling pencils, each of which, on emerging from the skin, generally consists of four or five hairs that afterwards split into several others; a few tufts of the same description also occur on the sides of the head; the remains of single hairs also occur on the sides of the neck and body; in young specimens, the number and length of the latter are greater than in adult ones; the hairs fringing the upper and lower edges of the tail are rigid and short, and many of them fully half a line in diameter at the base. Feet rather small for the size of the animal, slightly depressed in front, and terminated anteriorly by four short, clumsy, and unconnected toes, each furnished with a small hoof; behind the roots of the toes, the skin of the foot is loosely connected with the parts beneath, and is rather pliant and usually marked with several transverse furrows.

DIMENSIONS.

	Feet. Inches.		Feet Inches.
Length from the edge of the upper lip			
to the tip of the tail	11 4		Length of the ear..... 0 3
of the tail	1 1		Height of the shoulder
of the fore legs to the breast ...	1 10		4 8
of the head	2 4½		Circumference of the thickest part of
			the body..... 10 6

The male and female, as far as colours are concerned, are nearly alike, but in regard to size they differ materially; the male is always considerably larger than the female.

Previously to the establishment of the Dutch colony at the Cape of Good Hope, Hippopotami existed in abundance in all the larger rivers of South Africa; but no sooner did the colonists direct their attention to the hunting of them, than their numbers began to diminish, partly from the destruction which was effected by the dexterous employment of fire-arms, and partly from many individuals having soon migrated, owing to the fear which was excited by the newly introduced weapons. At present, scarcely one exists in any of the rivers of the Cape colony, and even but very few in streams within a moderate distance of it. On the Expedition arriving in latitudes too remote to be readily reached by hunters furnished with fire-arms, every large river was found to abound in specimens, and in those the animals appeared, as they probably did some two hundred years ago much nearer to the southern extremity of the continent, familiar, comparatively fearless of man, and generally prepared to survey, with curiosity, any intrusion upon their haunts. To convey some idea of the numbers in which they

HIPPOPOTAMUS AMPHIBIUS.

were found in several of the rivers towards the tropic of Capricorn, it may suffice to state, that in the course of an hour and a half a few members of the Expedition-party killed seven within gun-shot of their encampment; several other individuals were in the same pool, and might also have been killed had it been desirable. One of the survivors was observed to make his escape to an adjoining pool, and in accomplishing that, he walked with considerable rapidity along the bottom of the river, and with his back covered with about a foot of water.

The Hippopotami feed chiefly upon grass, and for that purpose resort to situations near the banks of rivers which are fitted to supply their food. In districts fully inhabited by man, they generally pass the day in the water, and seek their nourishment during the night; but in localities differently circumstanced, they often pass a portion of the day as well as the night upon dry land. In countries in which the night-time constitutes the only safe period for their leaving the water, they are generally to be seen effecting their escape from it immediately before dark, or are to be heard doing so soon after the day has closed, and according to the state of the surrounding country; they then either directly commence feeding, or begin a journey towards localities where food may exist. When, previous to nightfall, they may have been in pools of rivers, they are generally at once enabled to commence feeding on reaching the dry land; but when they may have passed the day in the sea, they require commonly to proceed some distance after leaving it before they find the grass which appears congenial to their palate. It is not every description of grass that Hippopotami seem to relish; they often pass over, in search of food, luxuriant green-swards, which would strongly attract many other animals which feed upon grass. Besides having a peculiar relish for the grasses of certain situations, they appear to have a predilection for districts supporting brushwood; and owing to the latter peculiarity, they are often to be found wandering in localities on which but little grass exists, when they might have it in the neighbourhood in great abundance, but without the accompaniment of wood. The whole of the night is probably not more than is necessary to admit of the Hippopotamus acquiring sufficient food for its wants; but if that be otherwise, it certainly prefers to pass what portion of the night may be unnecessary for procuring nourishment upon the dry land, rather than in the water, being generally only seen to retire to the latter upon light returning.

It is difficult to decide, whether the Hippopotamus prefers the pools of rivers, or the waters of the ocean for its abode during the day. When an opportunity of exercising a choice exists, some individuals embrace the one, and some the other. During a journey I some years ago made to Port Natal and the country beyond it, I had numerous opportunities of observing the footsteps, as made by these animals while entering and leaving the sea; and on one occasion my party had an opportunity of opposing a female accompanied by a young one, on their way to the sea, in which attempt the party proved unsuccessful.

The excrement of the Hippopotamus, in common with that of the Elephant and the Rhinoceros, is voided in immense cylindrical masses; and these masses, when examined in the case of the Hippopotamus, seem principally to consist of comminuted grass, apparently but little altered by the process it must have undergone, and certainly in a drier condition than it could possibly have entered the stomach.

With regard to the disposition of the Hippopotamus, that may be described as peaceable and inoffensive. When the animal is wounded, however, or when it happens to be accompanied in its excursions upon dry land by young ones, it manifests no trifling degree of ferocity, and instantly gives chase if in any way interrupted in the course it may be pursuing. The one which my party

HIPPOPOTAMUS AMPHIBIUS.

endeavoured to intercept immediately became the assailant, on discovering the object of the party, and with open mouth rushed towards the man nearest to her ; the display of her enormous mouth, armed with formidable teeth, caused the most advanced of the hunters to retreat, and those in the rear to pause. The flight of the hunters seemed to encourage the animal in pursuit, and though the direction they took led her, in pursuing them, to retire from the sea, which she had intended to enter, yet she persevered in giving chase, until one of the party who, from his situation, had not had occasion to fly, fired a bullet into her mouth. Immediately after the wound was inflicted, she, for an instant, stood still, and then retreated with precipitation to the sea, in which she was afterwards shot, having, contrary to the usual custom of her kind, manifested a disinclination to retire into deep water, a disinclination, no doubt arising from sensations experienced from the wound she had received.

The sagacity of the Hippopotamus, though it is no doubt inferior to that of the Elephant, is nevertheless very considerable. The habits of the animal are opposed to our becoming intimately acquainted with it—yet, from what has been noticed of its adroitness in guarding against assailants, in avoiding pits dug purposely to entrap it, in conducting its young both in and out of the water, and in migrating from localities which it may have discovered are not to be longer held without serious danger, to others not exposed to such inconveniences,—even though to reach those it may require to make long journeys, are all evidences that it is far from the stupid animal it has been frequently described. Its memory may be considered tenacious, certainly superior to that of the Rhinoceros, and possibly equal to that of the Elephant. When once a Hippopotamus has been assailed in its watery dwelling, and injured from incautiously exposing itself, it will rarely be guilty of the same indiscretion a second time; and though its haunts may not again be approached by hunters till after a long period has elapsed, it will survey such approaches, and perform the movements necessary for its respiration with a degree of caution, which clearly shows, that it has not forgotten the misfortunes to which an opposite course had exposed it.

The European colonist, not less than the native of South Africa, hunts the Hippopotamus with great determination and perseverance ; the former trusts entirely to fire-arms for its destruction ; the latter again trusts principally to stratagem, as with his weapons alone he is unable to kill it under common circumstances. The high estimation in which the fatty material that lies between the skin and the muscular parts of the Hippopotamus, and which is known in the Cape colony by the name of "*Speck*," is held, is perhaps the principal incitement which urges the white man's perseverance, while that, as well as the parts beneath it, are equally objects of desire with the Native. To acquire the incisors and canine teeth, which are valuable as articles of trade, has also long rendered its capture an object desirable to hunters. The skin of the animal is likewise an article of profit, as, when cut into stripes and shaved into tapering cylinders of some feet in length, a ready market is found for them in the colony, where, under the name of "*Sambucks*," they are employed as substitutes for riding-whips.



MANIS TEMMINCKII
(Mammalia.—Plate 7)

MANIS TEMMINCKII.—SMUTS.*

MAMMALIA.—PLATE VII.

M. suprâ pallide flavo-brunneus; infrâ rubro-brunneus; dorsi squamis versus apices strigâ subflavâ notatis; caudâ latâ, suprâ, versus basin squamarium seriebus quinque, versus apicem quatuor, caudæ apice obtuso;—oculis brunneis.

LONGITUDO 2 ped. 5 unc.

COLOUR.—Scales pale yellowish brown, the colour lightest towards their points, many of which are marked with a longitudinal yellow streak; parts not covered with scales dusky brownish yellow. Eyes reddish brown; muzzle black. Nails of the fore feet a pale, dull yellow; those of the hinder ones brownish yellow.

FORM, &c.—Thick in proportion to its length. Head, anteriorly, somewhat cylindrical; posteriorly, subquadrangular, the sides and under surface being rather flat, the upper surface slightly convex. Eyes small, situated far back on the head, and a little below the lower edge of the scales. Ears rudimentary; the *meatus auditorius* large, and somewhat ovate. Neck very short. Body and tail robust, and nearly semi-cylindrical; extremities, particularly the anterior ones, slender and short; claws five; the three middle ones of the fore-feet are thick at their bases, slender towards the points, strongly curved, and beneath longitudinally channelled; the outermost claw is thick and short, the innermost rather longer than the last, slender and slightly curved; the claws of the hinder feet are short, flat, strong, and in close contact with the soft parts, beyond which their points do not project. The scales covering the upper surface of the head are oval and distinctly imbricated; those composing the marginal row, on each side of the tail, are long, divergent, and form a considerable angle with the axis of the animal, in consequence of which arrangement the sides of the tail appear strongly serrated. All the scales are finely marked towards their bases by delicate longitudinal furrows and intervening ridges; but towards the points they are level and smooth. On the thickest part of the body the scales are commonly in fourteen rows; on the upper surface of the tail they are, including the marginal rows, five towards the base, and four towards and at the point. The scales covering the under surface of the tail, particularly towards its extremity, are large, and disposed in two rows; towards the base there

* *Dissertatio Zoologica enumerationem mammalium Capensium continens auctore Johanne Smuts, Leidæ, 1832.*

MANIS TEMMINCKII.

are three. So far as the five rows exist, the central row appears a regular continuation of the central row of the back ; but when the change to four takes place, the continuity is broken.

DIMENSIONS.

	Ft.	Inch.	Lin.		Ft.	Inch.	Lin.
Length from the tip of the nose				Breadth of the under surface of			
to the point of the tail...	2	5	0	the tail at the base.....	0	5	3
of the tail	1	0	6	Distance between the nose and			
of the head	0	3	6	the eye	0	1	7
of the fore legs.....	0	2	3	Distance between the eye and			
of the hinder legs.....	0	3	6	the ear	0	0	10
Height at the shoulder	0	6	6				

Manis Temminckii is readily to be distinguished from any of the other species of the genus yet described, simply from the central row of scales upon the upper surface of the tail terminating some way behind its point. From *Manis pentadactyla*, Lin., the species to which it bears most similarity, it is moreover to be distinguished by all its scales being proportionally larger, and by those on the head being shaped and disposed differently. The greater breadth of the tail, and the more divergent character of its marginal plates, also afford marked characters by which the species is easily to be recognised from *Manis pentadactyla*.

Only one solitary specimen of this species was obtained by the expedition before reaching 26° south latitude, and but two more between that parallel and the tropic of Capricorn, though others were known to have been captured in the latter tract while the travellers were actually traversing it. It is very questionable if the animal be so rare in nature as the result of our experience might incline us to believe. Its extreme scarcity probably arises from its having long been zealously sought after by the natives, who cherish a belief that it either has some influence upon cattle, or at least that certain observances in respect to it have an effect upon them. Whenever a specimen, therefore, is secured, it is immediately burned in some cattle pen, which, according to the opinion of the sacrificer, tends to increase the health and fertility of all cattle who may afterwards enter the fold. Not many years ago a specimen was captured in the northern part of the Cape colony, which circumstance renders it probable that the species was at one time scattered over the whole of South Africa, and that its almost total disappearance from the more southern districts has arisen from causes such as are now operating to effect a similar result in the interior.

When discovered, *Manis Temminckii* never attempts to escape, but instantly rolls itself up into a globular form, taking special care of its head, which is the only part that is easily injured. Ants constitute its chief and favourite food, and these it secures by extending its projectile tongue into holes which may exist in the habitations of these insects or which it may itself form ; and when, by means of the glutinous matter with which its tongue is covered, a full load has been received, a sudden contraction of the retractor muscles carries both into its mouth, after which the little animals are immediately swallowed.

THE [illegible]

[illegible text]

[illegible text]

[illegible text]

[illegible text]

[illegible text]



GALAGO MOHOLI.
(Mammalia. Plate 8.)

GALAGO MOHOLI.—SMITH.

MAMMALIA.—PLATE VIII.

G. suprà murinus infrà albus ; artibus externè flavo-tinctis ; strigâ inter frontem et nasum, labiis, capitis lateribus infrà et post oculos albis ; caudâ rufo-brunnâ ; auribus carnis ; oculis aurantiis.

LONGITUDO e naso ad caudæ apicem 16 unc.

GALAGO MOHOLI, Rep. of Exped. App. page 42, June, 1836.

COLOUR.—The upper parts of the head and neck, the back, the sides of the body, and the outer and hinder surfaces of extremities intermediate between pearl and yellowish-grey ; the back is finely brindled from the dark colour of the basal portion of the fur being here and there seen through the surface tints ; the extremities are of a lighter hue than the other parts enumerated, and their outer and hinder surfaces are distinctly tinted with yellow ; the middle of the face, the lips, the sides of the head, below and behind the eyes, the chin, throat, abdomen, and the upper surface of the fingers white ; inner surfaces of extremities white tinged with yellow. Tail glossy, the colour intermediate between yellowish-brown and cochineal red,—the fur is, throughout, of the same colour, that of the other parts is a dark slate colour except at and near its surface. Ears flesh-coloured, and the down which is very sparingly scattered over their outer surface is pure white. Eyes deep topaz yellow ; the palms of hands and under surface of the fingers are of a flesh-colour tinged with brown.

FORM, &c.—Figure slender and elegant. Head broad, subglobular, and anteriorly terminated by a short, high and almost pointed nose. Teeth 18 in each jaw, viz. incisors $\frac{2}{2}$, canines $\frac{1}{1}$, false molars $\frac{2}{2}$, true molars $\frac{4}{4}$. Ears large, bare, and patulous, their tips rather narrow and slightly rounded ; the outer margin of each ear has two faint emarginations and the internal or anterior surface of each is distinctly marked with four or more transverse furrows, between which are corresponding transverse ridges ; the eyeballs and the pupils large ; anterior extremities short and slender ; posterior ones long, rather robust, and each is terminated by four fingers and an opposable thumb, the tips of which are dilated and depressed, the nail of the fore-finger of each of the hinder extremities is narrow, convex, considerably elongated beyond the soft parts, and obtusely pointed ; all the other nails both of the anterior and posterior extremities small, thin, flat, roundish or ovate in form, and not extended to the points of the fingers. Tail cylindrical,

GALAGO MOHOLI.

slender towards the base, much thicker towards and at the tip, which arises from the fur being longer on these parts. On the head, body, and extremities, the covering consists of a very fine, short, woolly fur; on the tail, and the upper surface of the fingers, rather harsher. Palms of the hands and under surface of the fingers naked.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the nose to the point of the tail	16	0	Length of the third finger	0	9
of the tail	8	0	of the little finger	0	5½
of the head	1	6	of the hinder extremities ...	6	4
of the ears	1	4	of the tarsus	1	1
Breadth of the ears	1	11	of the thumb		5
Length of the anterior extremities ...	2	6	of the fore finger		6
of the thumb		3½	of the middle finger		8
of the fore finger		6	of the third finger		8
of the middle finger		8½	of the little finger		7

The *male* and *female* are of the same size, and the prevailing colours are alike in both; the yellow tint is rather strongest in the male.

As no correct figures of the internal parts of any of the species of *Galago* have yet been published, and as none of the species of that genus are to be readily procured, and consequently the opportunities of becoming acquainted with their anatomical characters must rarely occur, I have thought it advisable to avail myself of the materials which I possess, and furnish representations of the more important and interesting organs of *Galago Moholi*. These organs are represented in *Plate 8 (bis.)*, and are—

Fig. 1. A front view of the skull, of its natural size.

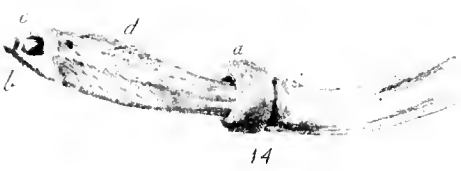
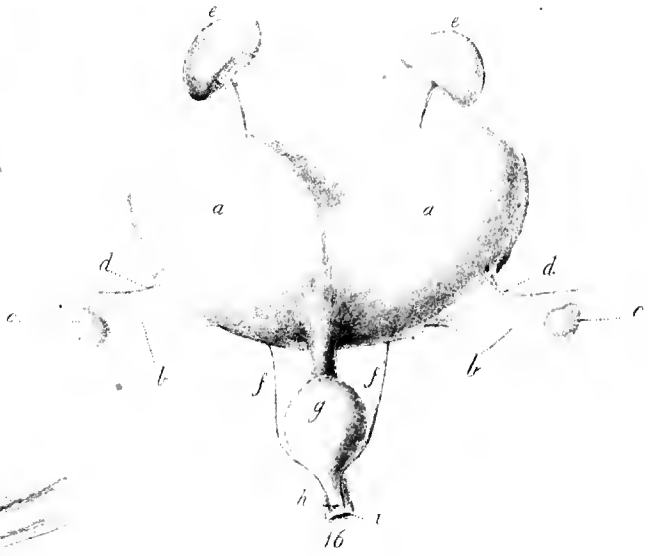
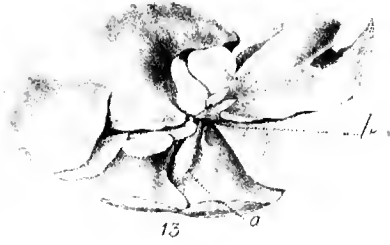
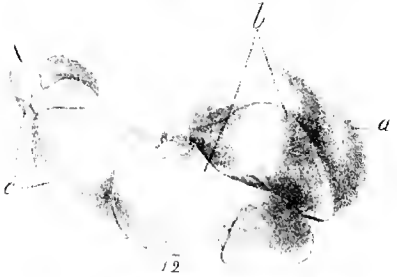
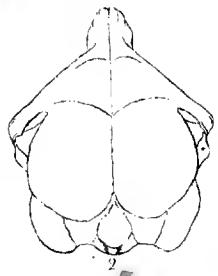
Fig. 2. A back view of the skull, of its natural size.

Fig. 3. A lateral view of the skull, of its natural size.

Fig. 4. A front view of the anterior portion of the upper jaw, of its natural size.

Fig. 5. A lateral view of the lower jaw, of its natural size.

Fig. 6. The under or basal aspect of the skull, of double the natural size. The *incisor* teeth are disposed in pairs; each tooth is linear, convex in front, grooved behind towards the point, and the apex is compressed transversely and formed for cutting. The *canines* are slightly curved, the convexity directed forward, and each tooth is provided with a heel or obtuse denticulus behind, near to the *alveolus*. The first, or *false molar*, is longitudinally compressed, and its apex tridentate, the anterior and posterior denticuli very small; the *true molars* are crowned with several distinct points which are separated from each other by deep depressions, and these points are disposed, when all the teeth of the side are *in situ*, in two longitudinal rows, the one row upon the outer, and the other upon the inner, edge of the dental phalanx: the latter row is slightly



GALAGO MOHOLI.
Mammalia Plate 8. (bis)

GALAGO MOHOLI.

waved, owing to the points of each tooth being disposed rather obliquely. The first and fifth are tricuspidate, two points on the outer, and one on the inner edge; the second, third, and fourth quinqucuspidate, two points on the outer, and three on the inner edge; the anterior point of the inner series of each tooth very small.

Fig. 7. The lower jaw of double its natural size. The *incisors* nearly horizontal, the four middle ones very slender, laterally compressed and disposed in pairs, the lateral ones much stronger, and each slightly removed from the centre-series; the *canines* are slightly curved, the convexity directed forward, the false *molar* is nearly of the same form as the canines, only shorter, and with a heel or obtuse denticulus behind near the *alveolus*; the first, second, and third *true molars*, quadricuspidate, two points on the outer and two on the inner edge; the fourth, quinqucuspidate, two points on the outer and two on the inner edge; the fifth directly behind.

Fig. 8. The trachea, and thoracic viscera,—*a* the *heart, in situ*; *b* the right *lung*, consisting of three lobes; *c* the left *lung*, consisting of two lobes.

Fig. 9. The stomach:—*a* the *œsophagus*, *b* the *duodenum*, *c* the biliary duct.

Fig. 10. The cœcum:—It is slight, sacculated on one side, and about seven inches in length: *a* the termination of the *small intestines*; *b* the commencement of the *large intestines*: the total length of the former is $14\frac{1}{2}$, and of the latter 15 inches.

Fig. 11. The spleen.

Fig. 12. A view of the anterior or convex surface of the liver. This viscus consists of three lobes; the right lobe, *a*, is entire, the middle one, *b*, is divided into three, and the left, *c*, into four lobules—one of the latter set is bicornate.

Fig. 13. The posterior or concave surface of the liver:—*a* the *gall bladder*; *b* the *gall duct*.

Fig. 14. The penis. It is pendent from the pubis, and supplied with an *os penis*; *a* the *prepuce*; *b* the *glans*, covered with a delicate smooth skin; *c* the orifice of the *urethra*; *d* the body of the *penis*, which is depressed, spatuliform, and with the skin forming irregular longitudinal rugæ, each of which is beset with slender, retroverted, horny spines.

Fig. 15. The testis; the *epididymis* and *vas deferens* distinctly shewn, the latter proceeding from the inferior lobule of the former.

Fig. 16. The urinary and genital organs:—*a* the bicornute *uterus*, as it appears in the gravid state; *b b* the *ligamenta lata*; *c c* the *ovaria*—thin, and of a circular form; *d d* the *Fallopian tubes*; *e e* the *kidneys*; *f f* the *ureters*; *g* the *bladder*; *h* the *urethra*; *i* the *vagina*.

Fig. 17. The uterus laid open, and the fœtus and membranes of the right side exposed:—*a* the inner surface of the *uterus*, covered with delicate spongy points or *villi*; *b* the fœtal membranes; *c* the *isthmus*, by which the membranes of the one fœtus is connected with those of the other; *d* a portion of the outer surface of the *chorion*. This membrane is covered externally with minute spongy points, similar to those which exist upon the inner surface of the uterus, and among these points occur a number of somewhat circular bodies like rudimentary *cotyledons*. Several of the latter, particularly those which exist upon the *isthmus c*, are distinctly cup-shaped; *e* the *amnion*, through which, near to the umbilical cord, are seen the rudimentary *cotyledons*; *f* the *umbilical cord* attached to the inferior and posterior part of the membranes; *g* the *fœtus*.

In June 1836, when I first published at the Cape of Good Hope, a description of this little animal, my principal reason for regarding it as distinct from *Galago Senegalensis*, was, all the

GALAGO MOHOLI.

specimens we possessed (nine) had four incisors in the upper jaw, while all the descriptions I had an opportunity of consulting gave to the Senegal species only *two*. Should *G. Moholi* eventually prove distinct from the latter, there is reason to believe that it occurs in Western as well as Southern Africa, at least there is a specimen from the Gambia, in the museum of the Zoological Society of London, which, as far as size and external appearances are concerned, so closely resembles ours, that it is difficult to distinguish the one from the other: the upper jaw of the specimen in question, unfortunately, is slightly damaged, and only one incisor remains. But admitting that the Zoological Society's specimen and ours are of one species, that species, in my opinion, is not the true *Galago Senegalensis*:—a conclusion to which I have been led by the recent observations of my friend Mr. Waterhouse, while in Paris. He found in the museum of the Jardin des Plantes, two specimens ticketed *Galago Senegalensis*; the one is certainly of the same species as that in the Zoological Society's Museum, and measures to the base of the tail eight inches and a half; the other differs from it not only in size, but also in colouring. According to Mr. Waterhouse's notes the latter is seven inches long; the upper parts are greyish-yellow; the sides yellow with a brownish tinge, and the under parts yellow; the hands are a dirty yellow-white; a line between the eyes and the muzzle yellowish; the tail is pale rusty yellow, the fur of the belly, both at base and apex is of the same colour; the ears are apparently larger than those of the other specimen, and the fingers longer." Now, as only one specimen appears to have existed in the museum at the time the *G. Senegalensis* was described by Daubenton, and as his description nearly corresponds with that of the second individual examined by Mr. Waterhouse,—and whose colouring is given from his notes,—I think we can have no hesitation in agreeing with him, that the above is the animal which Daubenton intends to describe when he says—"length seven inches; the hairs tolerably long and woolly; the lips and top of the nose is yellow-white; this colour extends between the eyes and the forehead. The back is yellowish-brown; this colour becomes paler on the flanks, the arms, and the thighs, and is yellow-white on the fore-arms, the legs, the belly, and the chest." If so, the second specimen mentioned in the Paris collection, is the true *Galago Senegalensis*; and ours, as well as the specimen in the Zoological Society's Museum, and the other which is in the Jardin des Plantes, is distinct; and consequently *Galago Moholi*, and is readily to be distinguished from *G. Senegalensis*, by having the fur of the belly of two colours—white towards the surface, and a dark slate colour towards the base.

The first specimens we observed were upon trees close to the Limpopo river, in about latitude 25° south, and from that parallel we continued to observe others as far as we travelled. During their movements, they evince great activity; they spring from branch to branch, and even from tree to tree, with extraordinary facility, and always seize with one of their fore feet the branch upon which they intend to rest. In their manners they manifest considerable resemblance to monkeys, particularly in their propensity to the practice of ridiculous grimaces, gesticulations, &c. According to the Natives, *G. Moholi* is a nocturnal animal, and is rarely to be seen during the day. The latter it spends in the nests which it forms for itself in the forks of branches, or in the cavities of decayed trees; and in these nests the females also produce and rear their young, which are generally two at a birth. Its food consists principally of pulpy fruits, though there is reason to believe it also consumes insects, as the remains of the latter were discovered in the stomachs of several individuals we examined.

1777

The first of the year was a very cold one, and the snow lay on the ground for several weeks. The weather was very disagreeable, and the people were much distressed. The crops were very poor, and the people were very poor. The year was a very bad one for the people of this country.

The second of the year was a very warm one, and the snow melted very early. The weather was very pleasant, and the people were much pleased. The crops were very good, and the people were very rich. The year was a very good one for the people of this country.

The third of the year was a very cold one, and the snow lay on the ground for several weeks. The weather was very disagreeable, and the people were much distressed. The crops were very poor, and the people were very poor. The year was a very bad one for the people of this country.

The fourth of the year was a very warm one, and the snow melted very early. The weather was very pleasant, and the people were much pleased. The crops were very good, and the people were very rich. The year was a very good one for the people of this country.

The fifth of the year was a very cold one, and the snow lay on the ground for several weeks. The weather was very disagreeable, and the people were much distressed. The crops were very poor, and the people were very poor. The year was a very bad one for the people of this country.

The sixth of the year was a very warm one, and the snow melted very early. The weather was very pleasant, and the people were much pleased. The crops were very good, and the people were very rich. The year was a very good one for the people of this country.

The seventh of the year was a very cold one, and the snow lay on the ground for several weeks. The weather was very disagreeable, and the people were much distressed. The crops were very poor, and the people were very poor. The year was a very bad one for the people of this country.

The eighth of the year was a very warm one, and the snow melted very early. The weather was very pleasant, and the people were much pleased. The crops were very good, and the people were very rich. The year was a very good one for the people of this country.

The ninth of the year was a very cold one, and the snow lay on the ground for several weeks. The weather was very disagreeable, and the people were much distressed. The crops were very poor, and the people were very poor. The year was a very bad one for the people of this country.

The tenth of the year was a very warm one, and the snow melted very early. The weather was very pleasant, and the people were much pleased. The crops were very good, and the people were very rich. The year was a very good one for the people of this country.



CHRYSOCHLORIS VILLOSA
(Mammalia—Plate 9)

CHRYSOCHLORIS VILLOSA.—SMITH.

MAMMALIA.—PLATE IX.

C. suprâ lucidè flavo-brunnea ; corporis lateribus, partibus inferioribusque griseo-brunneis ; labiis, mento strigâque ex angulo oris porrectâ albis ; unguibus flavo-albis ; vellere villosò.

LONGITUDO 5 une.

CHRYSOCHLORIS VILLOSA, Smith, South African Quarterly Journal, New Series, Vol. I. page 81, 1833.

COLOUR.—Above shining yellowish brown, faintly brindled with a dark brown, each hair is slate-coloured towards and at the base, yellowish brown in the middle, and brown at the point ; sides of body and belly greyish brown. Upper and lower lips, chin, and a well marked oblique stripe between the angle of the mouth and the sides of the neck yellowish white, the latter in particular slightly pencilled with brown ; upper surface of snout flesh-coloured ; nails yellowish white.

FORM.—Typical ; muzzle rather elongated, semicircular at the apex, flattened above, and for some distance behind the point is denuded of fur,—the bare space is nearly semicircular. Body rather massive ; fur long and rigid—its length great when compared with that of the other South African species of the genus. The outermost claw of the fore foot strong and considerably curved, the second smaller, the third delicate and short ; all the claws of the hinder feet long, slender, and but slightly curved. No eyes visible.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the nose to the angle of the mouth.....	0	6	Length of the outer claw of the fore foot	0	6
Length of the hinder legs.....	0	6	Total length of the animal	5	0
			Height	2	3

The genus *Chrysochloris*, as far as we yet know, is purely an African form ; and until the discovery of the present animal it contained only two species. When *Chrysochloris villosa* became known it formed a third species, and latterly a fourth has been described by Mr. Ogilby, under the name of *Ch. Damarensis* ;* all four are natives of South Africa. The two species

* Proceedings of the Zoological Society of London for 1838, page 5.

CHRYSOCHLORIS VILLOSA.

first discovered, and the one lately added by Mr. Ogilby, resemble each other as regards the characters of their fur, and it requires some attention to the individual characters of each species, to enable the naturalist to distinguish them from each other. *Chrysochloris villosa*, however, is so very unlike the other three, that no labour is required to discover its differences. *Chrysochloris aurata* and *Ch. Hottentota* differ materially from each other as regards their habits, and they form their burrows after a different manner. Of the habits of the present species we know nothing. It was discovered near Port Natal, and at that time it was wandering apparently at random upon some meadow ground, which was covered with long grass. In its stomach were found the remains of insects and their larvæ. The species described by Mr. Ogilby was obtained on the west coast of South Africa, some four or five hundred miles north of Cape Town, and bears a considerable resemblance to *Chrysochloris aurata*.

The following are the species at present known.

Chrysochloris aurata. Desm.

Chrysochloris Hottentota. Smith.

Chrysochloris villosa. Smith.

Chrysochloris Damarensis. Ogilby.



MACROSCELIDES TYPICUS.
(Mammalia—Plate 10)

MACROSCELIDES TYPICUS.—SMITH.

MAMMALIA.—PLATE X.

M. capite, dorso, lateribusque pallidè flavo-brunneis, dorso parçè brunneo-rubro penicillato; subtus albus flavo-tinctus; auribus latis, rotundatis, anticè pilis albis vestitis; lineâ rubro-brunnâ suprâ basin proboscidis, versus frontem prolongatâ.
LONGITUDO corporis 5 unc.; caudæ $4\frac{1}{2}$ unc.

MACROSCELIDES TYPICUS, Smith, Zoological Journal, Vol. IV., 1829.*

COLOUR.—The prevailing surface-colour of the fur of the head, back and sides is intermediate between light yellowish brown and wood-brown; the colour of the back being slightly broken by an intermixture of some reddish brown hairs. The under parts are white with here and there a faint tinge of yellow; the legs are rusty white; the toes clear white; the upper surface of the tail is greyish brown, the lower surface yellowish brown except towards the tip, where both the one and the other are reddish black; the fur coating the inner surface of the ears and a pencil of long hairs in front of *meatus auditorius* pure white, the fur on the outer or hinder surface is of the same colour as the back; proboscis rusty brown, with a more or less distinct reddish brown stripe above at its base, which occasionally extends along the middle of the face towards the forehead. Immediately below the surface the fur is a dark slate colour, and the surface-tints are modified according to the distinctness with which that tint is seen. The latter also vary with age and season, &c.; thus in some specimens we find the prevailing colour to be mouse-grey.

FORM, &c.—Figure squat; head behind eyes broad and bulky, before eyes slender, subcylindrical and terminated by a delicate cylindrical and flexible snout or proboscis, the diameter of which is nearly everywhere equal; nostrils small, circular, situated at the point of the proboscis and separated from each other by a narrow vertical groove; eyes large and prominent, nearly mid-way between the base of proboscis and ears. Ears rather short, broad and patulous, the circumference almost semicircular; with a faint rudimentary emargination below the most prominent point of the semicircle; a tuft of long hair immediately in front of *meatus auditorius*. Anterior extremities rather

* Professor Lichtenstein has invented a new title for this genus; but as that was proposed long after mine was generally adopted throughout Europe, his of course cannot be admitted. Surely such a mode of proceeding ought to be discountenanced in every country.

MACROSCELIDES TYPICUS.

short ; posterior extremities long and the tarsi bare beneath. Toes short and all nearly of the same length, the inner toe of the hinder extremities considerably removed from the others ; nails short, slender and strongly curved. Tail cylindrical, slightly tapered, and closely covered with short rigid hairs. Fur long, soft and silky, very dense, and but slightly recumbent. For the form of the *skull*, and the characters of the *teeth* and of some of the *viscera*, vide Plate XV. 1 a, 1 b, 1 c, 1 d, 1 e, 1 f, 1 g, 1 h, and 1 i.

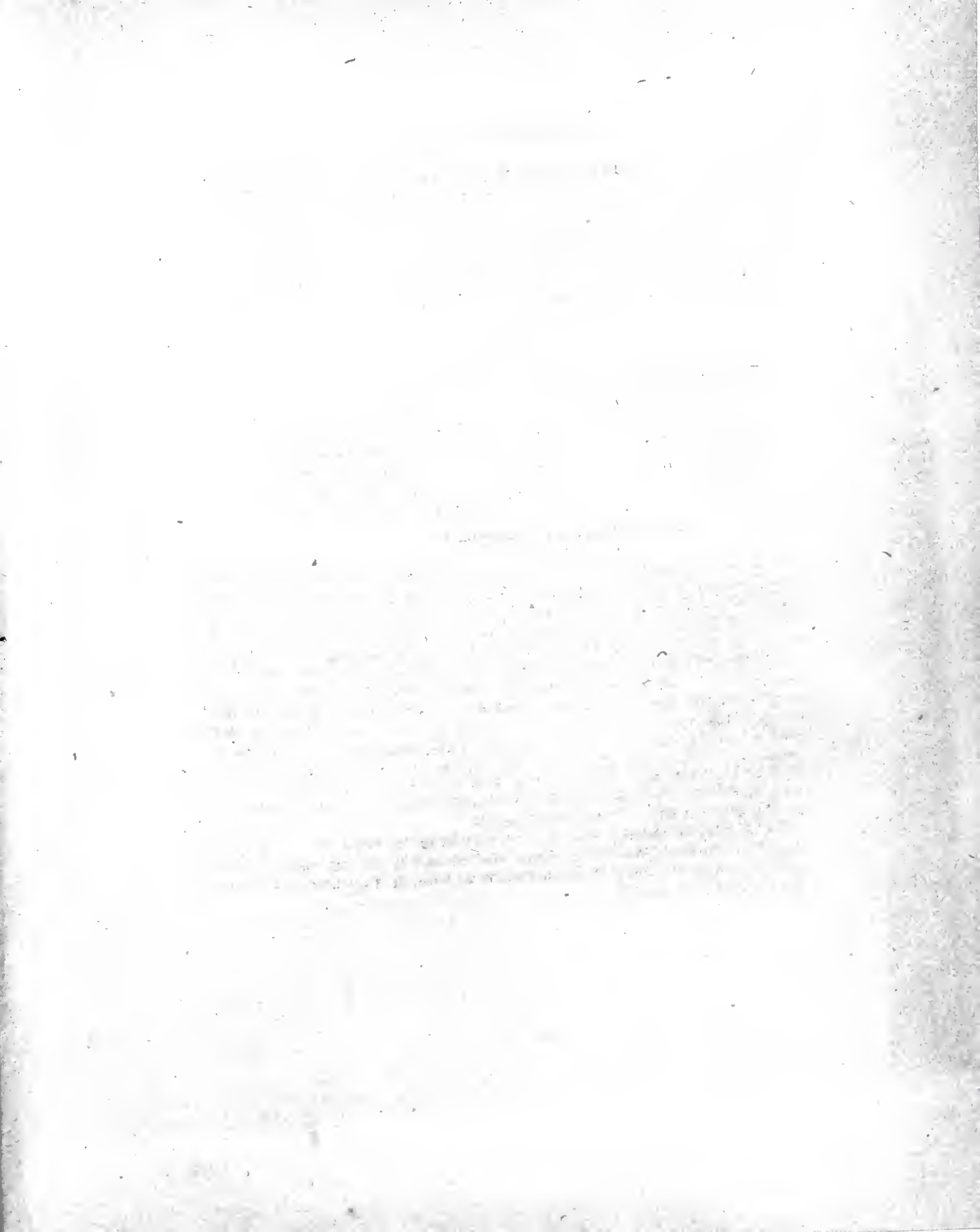
DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the point of the proboscis			Length of the hinder legs	3	3
to the extremity of the tail	9	6	of the tarsus	0	10½
of the head including the pro-			of the toes.....	0	2½
boscis	2	2	Distance between the base of the		
of the proboscis	0	6	proboscis and the eye...	0	6½
of the tail	4	6	between the eye and the		
of the ears	0	8	base of the ear.....	0	7½
of the fore legs	1	4	Height when standing on all the feet	2	8

The colours of both sexes are nearly alike.

The shape, breadth and shortness of the ears, together with the comparatively dense coating of fur by which both their inner and outer surfaces are covered, enable us readily to distinguish this species from any of the others which have yet been discovered in Southern Africa. It is found inhabiting open, arid plains, particularly such as bear a thin coating of brushwood. It lives in burrows under ground, the passage to which is usually for some distance below the surface, almost perpendicular ; it vacates these during a great portion of the day, and is employed either in seeking its food or basking in the solar rays. To the latter it is very partial, and for the purpose of insuring the greatest *quantum* of heat, it usually sits erect upon its hinder legs, and facing the direction from which the heat proceeds. When disturbed while occupied in either of the ways mentioned, it flies immediately to its subterranean retreat, and its progress is effected with such rapidity, that it is impossible to discover anything either of the form or the real nature of the animal as it advances. On this account I was familiar with the general appearance it presents on such occasions long before I had any idea of its real character. It feeds upon insects.

The discovery of this little animal in 1828, rendered the institution of a new group of *Insectivora* necessary. When its characters were indicated in 1829, *M. typicus* was only known ; at present the number of described species are seven, six of which belong to Southern Africa and one to Algiers.





MACROSCELIDES RUPESTRIS.
(Mammalia - Platell)

MACROSCELIDES RUPESTRIS.—SMITH.

MAMMALIA.—PLATE II.

M. capite, dorso, lateribusque pallidè fulvus, nigro-penicillatis; infrà albus, ochreo-tinctus; caudâ flavo-brunneâ, nigro-penicillatâ; cruribus fulvo-albis; labio superiore, circuloque ocnario albis; nuchâ, maculâque post aures vividè fulvis; proboscide fulvo-albo, suprâ lineâ longitudinale nigrâ versus basin; oculis subnigris.

LONGITUDO corporis cum capite, 6 unc.; caudæ $4\frac{1}{2}$ ad 5 unc.

MACROSCELIDES RUPESTRIS, Smith.—Proceedings of the Zoological Society of London for 1830; p. 11.

COLOUR.—The surface-colour of the upper and lateral parts of the head and of the back and sides of the body intermediate between wood-brown and sienna-yellow,—the tint darkest on the head, brightest on the back, and palest on the sides, and on all, more or less distinctly brindled or broken by the presence of fine black hairs, which are freely intermixed with the fur. The upper lip, a ring round the eyes, the lower part of the sides and the whole of the under parts of the body white, faintly tinted with ochry yellow. Legs and feet tawny white. Tail yellowish brown, darkest above, and pencilled with black, particularly towards the point. The nape of the neck and the fur immediately behind the base of the ears bright rufous-yellow; the fur coating the inner surface of the ears, and the long tuft which guards the *meatus auditorius* white; on the outer surface it is partly yellowish brown and partly dusky white. Proboscis rusty white, with a longitudinal black-brown stripe above towards the base; whiskers black, some of the bristles white at the base; eyes almost black; nails a dark horn-colour.

FORM, &c.—Figure rather robust, yet better proportioned than that of *M. Typicus*. Head behind the eyes broad and flat; proboscis considerably thicker at its base than at its apex; eyes large and situated nearer to the ears than to the base of the proboscis; ears erect, rather long and of a somewhat oval shape, their inner surface tolerably coated with short fur, their outer surface almost bare. Tail cylindrical, much thicker at the base than the apex, and closely covered with coarse hair which, except at the apex, is very short; inner toe of hinder extremities but little removed from the other toes.

MACROSCELIDES RUPESTRIS.

Fur long, soft, silky, and more recumbent than that of *M. Typicus*. For the form of the skull and the characters of the teeth, vide Plate XV. 2 a, 2 b, and 2 c.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the proboscis			Length of the tarsus	1	1 $\frac{1}{2}$
to the point of the tail.....	10	6	of the toes	0	3
of the head.....	2	0	Distance between the base of the		
of the proboscis.....	0	6 $\frac{1}{2}$	proboscis and the eyes.....	0	9
of the ears.....	0	9 $\frac{1}{2}$	between the eye and the ear.	0	5
of the fore-legs.....	1	6	Height when standing.....	2	9
of the hind-legs.....	3	6			

The colours of both sexes are nearly alike.

The shape of the ears, the position of the eyes in relation to the proboscis and ears, the white ring encircling the eyes, the rufous spot behind the base of each ear, the figure of the proboscis, the more recumbent direction of the fur, and the greater size of the animal, are external characters by which this species is readily distinguished from *Macroscelides Typicus*. Like the last named species, the range of *M. Rupestris* is rather extensive: both animals are scattered over a great portion of the more southern parts of South Africa. The positions it selects for its *habitats* are very different to those chosen by *M. Typicus*: it is invariably found among rocks, and it seeks its hiding-place either in the caverns of these, or under detached blocks of stone. Insects constitute its food, and during most of the day it wanders in search of them over the rugged surfaces which characterise the localities it inhabits, and when so occupied, the slightest cause of alarm drives it instantly to a place of concealment; to attain which, it moves with that extraordinary rapidity which we have mentioned when speaking of *M. Typicus*. When uninfluenced by fear, this as well as the other species appear to walk regularly, but when frightened they seem to advance by successive leaps.





MACROSCELIDES INTUFI.

(Mammalia Plate 12)

MACROSCELIDES INTUFI.—SMITH.

MAMMALIA.—PLATE XII.

M. capite, dorso, lateribusque pallidè subochreis, nigro parè penicillatis ; subtus albus, flavo-umbratus ;
caudâ ochreâ, brunneo penicillatâ ; cruribus fulvo-albis ; oculis subnigris.
LONGITUDO corporis cum capite $5\frac{1}{2}$ unc. ; caudæ 4 unc.

MACROSCELIDES INTUFI.—Rep. of Exped. App. June, 1836.

COLOUR.—The surface-colour of the upper and lateral parts of the head and of the back, and the sides of the body, is intermediate between sienna and cream-yellow, the tint being slightly broken by the presence of a number of black hairs which are intermixed with the fur ; the upper lip, ring round the eye, and all the under parts white, with here and there a faint yellowish tint ; legs pale rusty white. Tail as if pencilled sienna-yellow and dark-brown. The fur on the anterior surface of the ears, and the tuft in front of the *meatus auditorius* white, the down coating the outer surface of the ears sienna-yellow ; proboscis rusty white ; eyes almost black ; whiskers black, a few of the bristles whitish towards base ; the nails a dark horn colour. On the upper and lateral parts of the head and body the fur below the surface is a dull slate colour, and the same tint is just discernible, close to the skin, upon such parts as are described to be white at the surface.

FORM, &c.—Figure rather slender ; proboscis robust, and considerably thicker at the base than the apex ; eyes large and situated much nearer to the ears than to the base of the proboscis ; ears erect, long, broad at their base, but much narrower towards the tips, which are rounded, each has a considerable emargination in its outer or hinder margin about the middle ; their inner surfaces towards the outer margins are coated with short fur, elsewhere nearly bare ; their outer surfaces have a very thin sprinkling of short fur. Tail rather slender, slightly thicker at the base than the apex, and closely covered with short rigid hairs ; inner toe of hinder extremities but little removed from the other toes. Fur rather short, slightly harsh, and rather

MACROSCELIDES INTUFI.

strongly recumbent. For the form of the skull and the characters of the teeth, vide Plate XV. 3 a, 3 b, and 3 c.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the proboscis			Length of the tarsus	1	0
to the point of the tail ...	9	0	of the toes	0	2½
of the head	2	0	Distance between the base of the		
of the proboscis	0	5	proboscis and the eye	0	9
of the ears	0	9	between the eye and the ear..	0	4½
of the fore-legs	1	3	Height when standing	2	4
of the hind legs	3	0			

Nothing is known of the male.

The comparatively slender figure of this species and the peculiar colour of the back and sides, are characters by which it is readily to be distinguished from any of the others which have yet been discovered in South Africa. To *M. Rupestris* it makes the nearest approach, but it differs from that species not only in regard to colour and figure; but also in having that portion of the head situated behind the eyes much narrower, and its proboscis, particularly towards the base, thicker. For further differences vide Plate XV. and explanations.

Of the habits of this species we know nothing. Only one specimen, which was obtained upon the banks of a river near to the Tropic of Capricorn, has come under our observation. The stomach contained comminuted insects.





MACROSCELIDES BRACHYRHYNCHUS .
(Mammalia — Plate 13)

MACROSCELIDES BRACHYRYNCHUS.—SMITH.

MAMMALIA.—PLATE XIII.

M. capite supra dorsoque inter rubro-aurantium et flavo-brunneum, nigro penicillatis; capitis, corporisque lateribus pallidè flavo-brunneis, brunneo-penicillatis; labio superiore, oculi circulo, corporisque partibus inferioribus albis; proboscide fulvo-albâ, base lineâ nigro-brunneâ transversâ; oculis subnigris.
LONGITUDO corporis cum capite, $4\frac{1}{2}$ unc.; caudæ, $3\frac{1}{4}$ unc.

MACROSCELIDES BRACHYRYNCHUS, Report of Exped. App. June, 1836.

COLOUR.—The surface-colour of the upper parts of the head and back is intermediate between reddish orange and yellowish brown, but broken or obscured by a profuse intermixture of blackish brown hairs, which exist among the fur; sides of head and body pale buff orange slightly pencilled with brown. Upper lip, ring round the eyes, and all the under parts white. Tail, above, deep brown pencilled with ochre-yellow, below, ochre-yellow pencilled with brown; legs rusty white; fur of ears and tuft in front of *meatus auditorius* yellowish white; whiskers partly black and partly ochrey yellow; proboscis rusty white and crossed at its base, above, by a blackish brown bar; eyes nearly black; nails black. The fur on all parts of the body, towards the skin, is a deep slate colour.

FORM, &c.—Figure rather squat; head rather slender; proboscis short and slightly thicker at base than apex; eyes large and prominent, rather nearer to the ears than to the snout; ears erect, long, and oval, their tips rounded; their inner surfaces with a thin sprinkling of fur towards the outer margins, elsewhere bare, their outer surfaces almost entirely destitute of covering. Tail cylindrical and fully coated with short rigid hair, that at apex rather longest; legs slender; inner toe of hinder extremities considerably removed from the other toes; nails slender and much curved. Fur long,

MACROSCELIDES BRACHYRYNCHUS.

rather rigid and strongly recumbent. For form of skull and characters of teeth, vide Plate XV. 4 a, 4 b, and 4 c.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the proboscis			Length of the hind-legs.....	2	8
to the point of the tail.....	8	0	of the tarsus.....	0	10
of the head.....	1	8	of the toes.....	0	2
of the proboscis.....	0	3	Distance between the proboscis and the		
of the tail.....	3	6	eye.....	0	8
of the ears.....	0	7	between the eye and the ear.	0	4½
of the fore-legs.....	1	2	Height when standing.....	1	10

As regards colour, both sexes are nearly alike.

The present is the smallest species of the genus which has yet been found in South Africa, and by its inferiority of size it is readily to be distinguished from the species already described; the shortness of its proboscis also furnishes a good diagnostic character; and should more be required, they are to be found in the form of its ears, texture of its fur, &c. Its range does not appear to extend much to the southward of the Tropic of Capricorn; at least, we did not find many specimens much to the south of that parallel. Like *M. Typicus*, it appeared to inhabit open plains, and as no specimens of the species just named were found in the latitudes where *M. brachyrynchus* occurred, we may perhaps with propriety regard it as holding the place on the more northerly plains which *M. Typicus* holds on those more to the southward. No opportunity occurred of discovering the nature of the positions in which this species secretes itself when alarmed or enjoying repose; but judging from the nature of the localities in which the animal was generally discovered, we little doubt that they consisted of subterranean burrows, similar to those inhabited by the species we have just surmised it may probably represent in the more northern latitudes. It feeds upon insects.



MACROSCELIDES EDWARDII.
(Mammalia Plate 14)

MACROSCELIDES EDWARDII.—SMITH.

MAMMALIA.—PLATE XIV. (MALE.)

M. capite supra dorsoque pallidè flavo-brunneis, nigro-brunneo effusè penicillatis; capitis corporisque lateribus cineris; infra sordido-albus; cruribus fulvo-albis; caudâ flavo-brunneâ nigro penicillatâ; annulo oculos cingente labisque albis; maculâ ad basin aurium extûs fulvâ.
LONGITUDO corporis cum capite 6 unc.; caudæ 5 unc.

COLOUR.—The surface-colour of the centre of the face, the forehead and the back light yellowish brown, profusely pencilled with blackish brown; the lateral parts of the head and the sides of the body, below a line carried backwards from the base of the ears, ashy grey tinted with pale tawny; the lips, chin, ring round the eyes, and the under parts of the body white; legs tawny white; tail yellowish brown freely pencilled with black. The fur which exists upon the ears, together with the pencil of long hairs destined to protect the *meatus auditorius* pale rusty white; the base of each ear externally is margined by a bright rufous blotch, which colour also tinges, though less deeply, the back part of the neck; whiskers black; proboscis black above and white on the sides; eyes nearly black.

FORM, &c.—Figure moderately robust; size intermediate between that of *M. rupestris* and *M. intufi*. Proboscis long, slender, and rather thicker at the base than the apex; eyes large, prominent, and much nearer to the ears than to the proboscis. Ears erect, long, narrower than in the other South African species, of a somewhat oval form, and rounded at the points, the outer margin of each distinctly emarginate a little below the apex; hinder toes of hinder extremities considerably removed from the other toes. Tail very long, cylindrical, and densely covered with short, rigid hairs, which increase in length towards its tip, where they form a thin rigid and divergent

MACROSCELIDES EDWARDII.

brush. Fur, long, soft, silky, and strongly recumbent, particularly on the head, back, and sides.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the proboscis			Length of the hind legs	4	2
to the point of the tail	10	8	of the tarsus	1	1½
of the head	2	2	of the toes	0	1¾
of the proboscis	0	5	Distance between the proboscis and the		
of the tail	5	3	eyes	0	11½
of the ears.....	0	11	between the eyes and the ears	0	5½
of the fore-legs.....	2	0	Height when standing	2	4

Nothing is known of the *female*.

For the specimen which has enabled us to figure and describe this new species, the *Cape Association* is indebted to the liberality of the *Messieurs Verreaux*, of Cape Town, all zealous and useful members of the Association. It was killed by M. Edward Verreaux, after whom we have named it, in one of the central districts of the colony, near to the Oliphant's river, and in a locality bearing little or no vegetation, except a few dwarf shrubs. In the stomach were contained comminuted insects. The ears are narrower in proportion to their length than those of any of the other South African species; and the difference between the colours of the back and sides is so palpable, and the boundaries of the colours so well defined, that by these characters alone the species is readily to be distinguished.





4a.



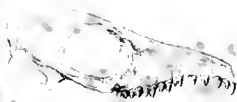
3a.



2a



1a



4b



3b



2b



1b



4c



3c



2c



1c



1d



1e



1f



1g



1h



1i

GENUS—MACROSCELIDES
(Mammalia Plate 15.)

GENUS—MACROSCELIDES.

MAMMALIA.—PLATE XV.

On the plates intended to represent the various species of *Macroscelides* having been completed, and the artist prepared to proceed with the plate of anatomical illustrations, it was discovered that the preparations, which had been collected to furnish the figures, had either been mislaid or by accident left at the Cape of Good Hope. It became therefore necessary either to abandon our original intention, or adopt the only other course open to us, and furnish representations of such mutilated specimens as we might still be able to command. Those we found to be very imperfect, yet they nevertheless appeared calculated to afford considerable assistance towards illustrating the diagnostic characters, and therefore of sufficient importance to warrant us in figuring them.

The skulls we possess are so imperfect, and the sutures so indistinct, that it has not been found practicable on the present occasion to indicate the forms of their individual bones. Something like the remains of a longitudinal suture is to be seen towards the middle of the frontal bone of *M. typicus*, and an indication of a like division is also to be noticed in the parietal bones. The division between the parietal and temporal bones is scarcely if at all indicated. The latter bones exhibit a peculiarity of structure, or at least the structure in question is developed to a degree which I do not recollect to have noticed in any other animals. The two tables of these bones throughout their whole extent recede greatly from each other, and both in the squamous and petrous portions, form large caverns, which, taken together, are not inferior in size to the cavity of the skull. It is the great convexity of the outer plate of the squamous portion which produces the lateral projections which exist above the auditory openings, and which are most strongly developed in *M. typicus*, and are well shown in its skull, figure 1 *a*. A similar kind of structure also appears to exist in a portion of the sphenoidal bones. The cavities, of each side, formed by this arrangement of the plates, communicate freely with each other, but of their contents in the living animal we cannot speak, owing to the loss already mentioned. The nasal bones are long, linear, and apparently divided by a longitudinal suture. The nasal processes of the maxillary bones form towards the orbits almost the whole of the sides of the face, while, anteriorly, the face consists entirely of the intermaxillary bones which lodge six of the front teeth. The orbits are large, and not separated from the temporal fossæ; the zigoma is nearly straight, and vertically is of considerable width; it appears to consist of a malar bone lying between the malar process of the maxillary and the zygomatic process of the temporal bones. The lower jaw is nearly of the same length as the upper; its horizontal *rami* are rather slender, slightly tapered anteriorly, and at their points are firmly connected by synchondrosis; the ascending *rami* thin, and each furnished with a projecting and convex articular condyle and two coronoid processes; the anterior process is in the same line as the condyle, and separated from it by a deep emargination; the posterior one extends from the angle of the jaw, is slightly curved upwards and terminates in a point.

GENUS—MACROSCELIDES.

The corresponding teeth in all the South African species agree in very many points, and thus the general resemblance may be said to be very strong. Minute examinations, however, divulge many well-marked differences which are more easily perceived than described. Each jaw contains twenty teeth, ten on each side. In the upper jaw, the series of one side is separated from that of the other at the anterior point of the intermaxillary bone; in the lower jaw no division exists, the two anteriormost teeth being in juxta-position. For the sake of convenience, we may consider the teeth of each jaw under three divisions, viz. *incisors*, *false molars*, and *true molars*. The *incisors* are six in number, and in the upper jaw are lodged in the intermaxillary bones; the *false molars* are two on each side; the remainder are classed as *true molars*. In *M. typicus* the teeth of each side are continuous, but in the other species several of the anterior ones are more or less apart from each other. With respect to form, the *incisors* of the upper jaw differ but little from each other, they are all laterally compressed, the inner surface of each is distinctly concave, and the outer slightly convex, the two anteriormost ones are slightly longer than the other four, and all have an oblique cutting edge, the most projecting point of which is at the front of each tooth. The *false molars* are very short, compressed, and slightly bicuspidate, the one point immediately behind the other. The *true molars* are quadricuspidate, two points on the outer edge and two on the inner, but the latter never reach the level of the former; hence the crown of each tooth exhibits an inward slope; in the hindermost *molar* the two posterior points are always but imperfectly developed. The *incisors* of the under jaw are more compressed than those of the upper; the two *false molars* resemble closely those of the upper jaw, the first and second true molars have more the appearance of false than true ones; indeed, they might with more propriety be ranked with the former than the latter; they are strongly compressed and faintly tricuspidate, the points being disposed in a longitudinal line: the three hindermost molars are quadricuspidate, and the external and internal points attain the same level.

The following are the parts represented—

- | | | | |
|-----|------------------------------------------------------------------------------|-----------------------------|-----|
| 1 a | The upper surface of the skull of <i>M. typicus</i> of the natural size. | | |
| 1 b | The lateral parts of do. | do. | do. |
| 1 c | The lower jaw of do. | do. | do. |
| 1 d | The under surface of the skull of do. | of double the natural size. | |
| 1 e | The lower jaw of do. | do. | |
| 1 f | The stomach of do. | do. | |
| 1 g | The cœcum of do., together with a portion of the large and small intestines. | | |
| 1 h | The liver of do., consisting of four very unequal-sized lobes. | | |
| 1 i | The left kidney of do. | | |
| 2 a | The upper surface of the skull of <i>M. rupestris</i> , of the natural size. | | |
| 2 b | The lateral parts of do. | do. | do. |
| 2 c | The lower jaw of do. | do. | do. |
| 3 a | The upper surface of the skull of <i>M. intufi</i> . | do. | |
| 3 b | The lateral parts of do. | do. | do. |
| 3 c | The lower jaw of do. | do. | do. |
| 4 a | The upper surface of the skull of <i>M. brachyrynchus</i> . | do. | |
| 4 b | The lateral parts of do. | do. | do. |
| 4 c | The lower jaw of do. | do. | do. |



CYNICTIS OGILBYII.
(Mammalia-Plate 16.)

CYNICTIS OGILBYII.—SMITH.

MAMMALIA.—PLATE XVI.—MALE.

C. supra ochreo-flavus, nigro-brunneo alboque sordido penicillatus; infra sublactifloris; mento gulâque ad album transientibus; caudâ patulâ fortiter depressâ et ferè distichâ, apice acuto, albo; auribus externe rubro-brunneis, interne subalbis; oculis rubris; unguibus livido-brunneis, versus apices pallidis.

LONGITUDO corporis cum capite 15 unc; caudæ, $9\frac{1}{4}$ unc.

COLOUR.—The upper and lateral parts of the head, neck, body, and tail, and the outer surfaces of the thighs ochre-yellow, freely and delicately pencilled with blackish brown and dirty white. The latter colours are all that exist to produce variegations on the parts mentioned, and both occur upon each hair,—the dirty white at the point, and the blackish brown some short distance behind it. On the hinder part of the back and upper aspect of the tail, the blackish brown is most strongly displayed, and produces on both an irregular, chequered, or brindled appearance. The under parts of the neck, body, and tail, as also the tip of the latter, and the parts of the extremities not already mentioned, dull cream-yellow; the chin, upper part of the throat, and lips, towards the angles of the mouth, dusky white. The hair and fur of the head and body towards the skin, a rusty slate colour. Ears externally rich reddish brown, internally dirty white. Muzzle black; eyes red; nails livid brown toward their bases, light horn-coloured at the points; soles of the feet brownish red.

FORM, &c.—Body rather slender; extremities delicate; tail narrow, sub-cylindrical, and tapering to the point, in which particulars it exhibits a greater resemblance to *Herpestes* than *Cynictis*. The hairy covering is of two descriptions, fur and hair; the fur constitutes a considerable proportion of the covering of the head, body, and extremities, but is entirely wanting on the tail; it is shorter than the hair, and is only to be seen distinctly by separating the latter. The hair is long on the back, thighs, and tail, where it gives rise to a shaggy appearance; it is every where rigid, on the body strongly recumbent, and on the tail divergent, thereby giving to the latter a somewhat distichous form. It is in the hairy portion of the covering that the diversity of colours occur, and which produce the brindled appearance

CYNICTIS OGILBYII.

already mentioned. The ears are short and semicircular; the head is broad and bulky behind the eye, but slender and subcylindrical towards the muzzle, which is bare and prominent. The nails are long, slender, and slightly curved; the curvatures most developed in those of the fore-feet. Besides the rigid bristles which occur upon the upper-lip, there are also a few of a similar description upon other parts of the head, such as the cheeks, forehead, commencement of the throat, &c. For the characters of the teeth, and the configuration of the skull, see Plate XVIII. and its letter-press description.

DIMENSIONS.

	Inch.	Lin.		Inch.	Lin.
Length from the nose to the base of the tail	15	0	Distance between the tip of the nose and the eye	1	1
of the tail	9	3	Distance between the eye and the ears	0	7½
of the head	2	9	Height at the shoulder	5	0

In the *female* the ground-colour is not quite so bright as in the male, nor is the brindling so distinct.

The grizzly appearance of the back, and the great villosity of the tail furnish characters by which this species is readily distinguished from the others which occur in South Africa.

It inhabits open country, and specimens are frequently to be seen on the barren plains which exist immediately to the northward of the Cape Colony. Over these they wander during the greater part of the day, in search of their food, which consists of mice, small birds, insects, &c. and they only retreat to the subterraneous burrows, in which they are accustomed to pass the night, when alarmed by the approach of man. They delight to bask in the sun, and when the calls of hunger are not urgent, they are to be seen, especially in the early part of the day, seated upon their hinder legs, with their bodies erect, and so placed, as that the greatest degree of heat shall be enjoyed. They assume the same position when their fears are excited, by which their range of view is considerably increased. Their common pace is a walk; but when retreating from real or imaginary danger, they move with great speed; their pace then is a sort of gallop, now and then broken by bounds or springs, which they commonly take when the surface over which they have to retreat, is either broken or coated with brushwood. Independently of their being extremely wild and cautious, they are also very savage, and when secured alive, they display a great desire to bite their captors, and it is not till after they have been a long time subjected to the sufferings of hunger, that they can be brought to tolerate the approach or even appearance of man, near to the place where they are confined, without evincing their savage and pugnacious propensities. When their spirits however are once subdued, they are tolerably docile; yet they are never to be trusted, inasmuch as they continue to manifest a treacherous disposition, and will often bite with severity, when only indications of kindness might be expected.

Declaration

I, the undersigned, do hereby certify that the foregoing is a true and correct copy of the original as the same appears in the records of the Board of Health of the City of New York, and that the same has been compared with the original and found to be a true and correct copy thereof.

Attest my hand and the seal of the Board of Health of the City of New York, this _____ day of _____, 19____.

President of the Board of Health

Secretary of the Board of Health



CYNICTIS LEPTURUS .
(Mammalia - Plate 17)

CYNICTIS LEPTURUS.—SMITH.

MAMMALIA.—PLATE XVII.

C. subfulvus, ochreo brunneoque penicillatus; dorso, corporisque lateribus pallide subrufo-tinctis; caudæ supra dimidio ultimo pilis brunneo-annulatis vestito; labiis, mento, caudæque apice subalbis; oculis rubris; auribus extus rubro-brunneis, intus subfulvis; unguibus livido-brunneis.

LONGITUDO corporis cum capite 15 unc.; caudæ 9 unc. 3 lin.

COLOUR.—Pale buff-orange, the back and sides, particularly towards the tail, tinted with Dutch-orange, and very faintly pencilled with cream-yellow and dusky brown. The back and the sides of the neck are also delicately pencilled with the same colours, which seems to be produced by many of the hairs of these parts being ringed with pale brown towards their points. The first third of the tail above is of the same colour as the hinder part of the back, the other two-thirds are fulvous, grizzled with dull chesnut-brown,—the latter being the colour of the middle portion of each hair; the under surface is pale buff-orange verging to cream-yellow. The sides of the head and the point of the tail are pale cream-yellow, the former sparingly pencilled with brown. The lips and chin nearly pure white; the edges and inner surfaces of the ears are buff-orange, the outer surfaces pale chesnut-brown. Muzzle, whiskers, and ciliæ black: eyes red: nails dark horn-coloured.

FORM, &c.—Typical. Figure rather slender and elegant. Head behind eyes broad and slightly depressed, before eyes slender and nearly cylindrical; muzzle naked; nostrils opening laterally; ears short and semicircular, with the auditory opening protected by a tuft of coarse hair. Tail long, narrow, slightly flattened, and pointed; nails slender, slightly curved, and channelled beneath towards their points. Head ornamented with several tufts of long rigid bristles, one series on each side of the upper lip, a second on each cheek, a third behind the angles of the mouth, a fourth about midway between the angles of the mouth at the commencement of the throat, and a fifth over the inner *canthus* of each eye. The covering of the animal consists partly of fur and partly of coarse hair; the fur, except on the tail, predominates, and

CYNICTIS LEPTURUS.

is considerably shorter than the hair; the latter on the head, body, and anterior extremities is strongly recumbent, but on the outer surface of the posterior extremities and the tail it is more or less divergent, and on these is considerably longer than elsewhere; on the head it is very short. The colour of the fur is uniform, and the slight variegations which appear depend upon the markings of the hair. For the characters of the teeth and the form of the head, see Plate 18, and its descriptive letter-press.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the nose to the root of the tail	15	11	Distance between the point of the nose and the eye	1	2
Length of the tail	9	3	Distance between the eye and the base of the ear superiorly...	0	6½
Height at the shoulder	5	3			

The almost uniform colour of this species enables us easily to distinguish it from the other two found in South Africa,—the comparative shortness of the hair with which it is covered, and the slenderness of the tail, in which respect it is more akin to *Herpestes* than *Cynictis*, are also available diagnostic characters.

What has been said touching the habits of *Cynictis Ogilbyii* will equally apply to the present animal. It inhabits arid plains towards the Tropic of Capricorn, and, like its congeners, passes some portion of its time under ground. It feeds upon small quadrupeds, birds, reptiles, insects, &c.

Though but a few years have elapsed since the genus *Cynictis* was established, we have already four well-marked species, belonging to it, all of Africa. The species which furnished Mr. Ogilby with the characters of the group, had, for years, been known as an inhabitant of South Africa, under the name of *Herpestes penicillatus*, but the peculiarities which demanded its removal from *Herpestes* were only discovered by the above named able naturalist in 1833. The other three have been discovered since, two of them in South Africa and the other in Sierra Leon. Of the four, *Cynictis Ogilbyii* is perhaps the most typical species; after that *C. Steidmanii*, then *C. lepturus*, and, lastly, *C. melanurus*, Martin.* The two last, except in the essential characters, present considerable resemblance to *Herpestes*, particularly in the character of the hair and the size and figure of the tail.

FORT PITT, CHATHAM,
30th August, 1839.

* Proceedings of the Zoological Society of London for 1836, p. 56.]



RHINOCEROS SIMUS
(Mammalia Plate 19)

RHINOCEROS SIMUS.—BURCHELL.

MAMMALIA.—PLATE XIX.

R. pallidè brunneo-griseus, flavo-brunneo tinctus; aurium marginibus versus apicem, caudâque supra 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			Length of the second horn	0	10
the base of the tail	12	1	Height at the shoulder	5	7
of the tail	2	2	at the crupper	5	3
of the first horn	2	11	Circumference of the body	12	1

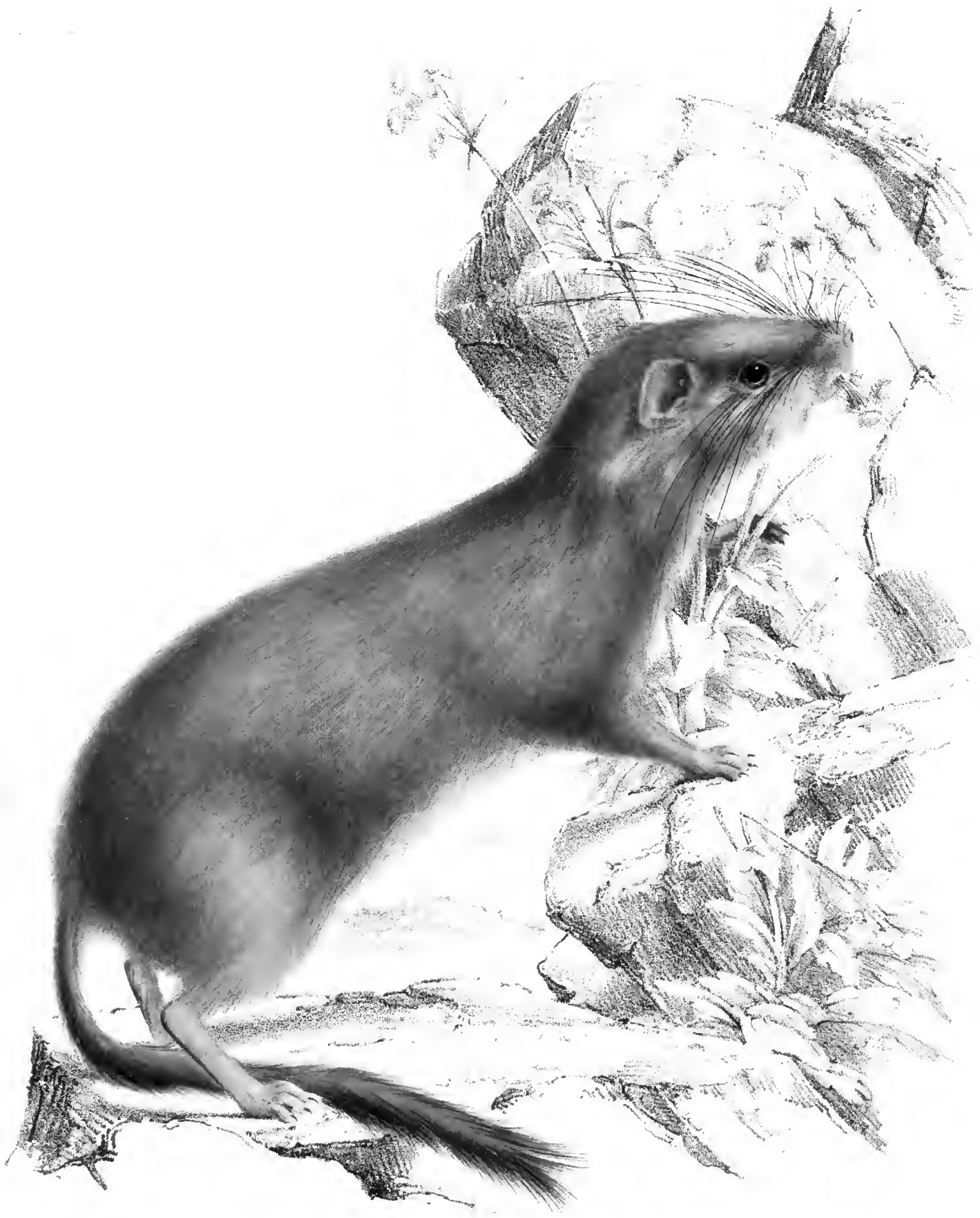
RHINOCEROS SIMUS.

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

Mohohoo, 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 Mohohoo, and to enjoy them throughout the year he is necessitated to lead a more wandering life than the two species already figured.



(W. J. V. P. 182.)
(Mammalia, Pl. 182.)

PETROMYS TYPICUS.—SMITH.*

MAMMALIA.—PLATE XX.

P. capite, cerviceque supernè, etiamque corporis lateribus anticè brunneo-griseis, flavo-brunneo delicate penicillatis; regione nasali, dorsoque rufis; corporis lateribus partibusque inferioribus, flavo-brunneis griseo admixtis; mento, regionibusque ad oris cingula subochreis; caudâ mystacibusque nigricantibus. Oculis subnigris.

LONGITUDO corporis cum capite, 7 unc. 6 lin.; caudæ, 5 unc. 9 lin.

PETROMYS TYPICUS, *Smith*. South African Quarterly Journal, No. 5, page 2.

COLOUR.—The upper and lateral parts of the head and neck, together with the sides of the body, anteriorly brownish grey, delicately pencilled with yellowish brown; the space under each ear finely grizzled with white. The extremity of the nose, the back, and the base of the tail, superiorly, intermediate between reddish orange and chesnut-brown, sparingly pencilled with black; sides of body, lower surface of neck and belly, light yellowish brown, mixed with brocoli-brown. Upper lip, angles of mouth and chin, dark cream-yellow. Tarsi yellowish-brown. Tail, whiskers, and hairs on margin of ears, rusty black. Eyes brownish black. Nails a dark horn-colour. Incisor teeth of both jaws, dark sienna-yellow. Hairs near to the skin, generally a dirty ash-grey.

FORM, &c.—Figure long, and moderately robust. Head rather long; nose rounded and full—its apex bare and black; the forehead, and upper part of the head, slightly convex. Ears rather small, semi-circular, and sparingly covered with short, rigid hair. Eyes moderately large, and rather prominent. Whiskers long and rigid; and on each cheek, immediately behind the eye,

* For the generic characters of *Petromys*, see South African Quarterly Journal, No. 5, page 2, (1831); and *Id.* second series, vol. i. page 146.

PETROMYS TYPICUS.

there is a small tuft of bristles, similar to those forming the whiskers. Legs rather short; the soles of the fore feet, and the tarsi of the hinder ones, bare, and of a brownish-black colour. The toes are rather short; and, as well as the claws, fully covered with fur; the two middle ones of each foot nearly of equal length, and slightly longer than the lateral ones. Claws short, slender, and slightly curved. Tail slender, cylindrical, and every where fully covered with rigid hairs; those towards the tip, much the longest. The fur of the head and body, is rather long and recumbent, closely set, and rather harsh.

The *skull* posteriorly very broad; above, between the hinder edges of the parietal and the apices of the nasal bones, flat. The *parietal* bones are divided by a longitudinal suture, as are also the frontal ones; the latter are very broad, so that the breadth between the eyes is unusually great, when compared with other *rodents* of the same size. The orbits are rather small, and their circumference, internally, irregular and broken. The *malar* bones are well developed, somewhat triangular in shape, and each externally with an obtuse carina along its middle; the point of the triangle joins the zygomatic process of the *temporal* bone. Infraorbital foramen very large. Tympanic *bullæ* large, subglobular, and semi-transparent. Foramina incisiva double. The *incisor* teeth of the upper jaw are long, and semicircular; the basal two-thirds concealed in the intermaxillary bone; the apex of the exposed third of each, with a sharp cutting edge anteriorly; behind which is a deep notch, formed to receive the point of the corresponding tooth of the lower jaw. The incisors of the lower jaw are laterally compressed, and more wedge-shaped at the points, than those of the upper jaw. The *molars* of both jaws are eight in number, four on each side, of nearly the same form in both, and without true fangs. They are all nearly of the same size; and the crown of each is crossed by two transverse *fossæ*, formed by the projecting enamel. The margin of the crown externally entire, and arched; internally notched;—and where this notch occurs, the enamel, with which it, as well as the rest of the tooth is edged, sends off, in the teeth of the upper jaw, a thin *lamella*, which proceeds nearly across the middle of the crown of each, in its course dividing and leaving a minute oval opening, about half-way between the notch and outer edge of the tooth. In the teeth of the lower jaw, neither the transverse *lamellæ* of the enamel, nor the openings, are visible. The rami of the lower jaw, posteriorly, or those parts which, when they ascend, are distinguished by the name of ascending *rami*, highly divaricated. The superior coronoid process delicate and very small; the inferior one long, pointed, projecting behind the line of the articular process. The configuration, &c. of certain of the abdominal *viscera*, will be understood from an examination of Plate XXI.



PETROMYS and DENDROMYS.
 (Mammalia-Plate 21)

PETROMYS TYPICUS.

- 1 a. A view of the upper surface of the skull, of its natural size.
- 1 b. A lateral view of the skull ditto.
- 1 c. A lateral view of the lower jaw ditto.
- 1 d. The under or basal aspect of the skull, of double the natural size.
- 1 e. The lower jaw ditto.
- 1 f. The liver, consisting of two lobes, the left deeply trifid.
- 1 g. The stomach, the smallest tube, the œsophagus.
- 1 h. The cœcum, the longest tube, entering at the small intestines.
- 1 i. The spleen.
- 1 k. The right kidney.
- 1 l. The impregnated uterus. This organ is bicornute, and two ova were contained in the left *cornu*.

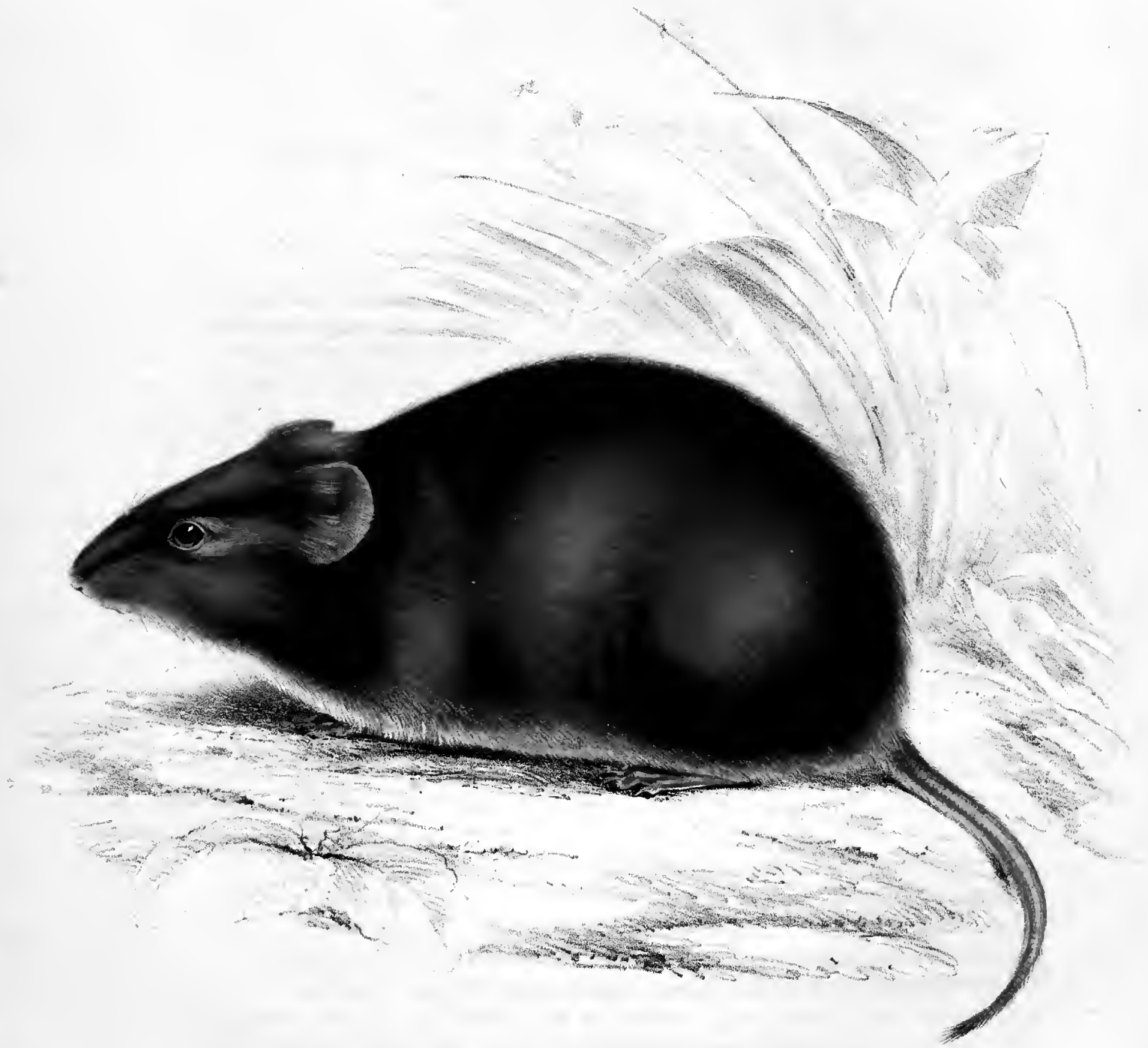
DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the nose to the base of			Distance between the tip of the nose		
the tail.....	7	3	and the eye	0	10
of the tail	5	3	Distance between the eye and the ear	0	4½
of the head	1	10	Height at the shoulder.....	2	9

The colours of the *female* are not quite so clear as those of the male.

This little animal is found upon the rocky hills which occur towards the mouth of the Orange River; and it lives under the loose stones which are strewed over the surface, or in the crevices of rocky precipices, where such exist. It seems to feed principally upon vegetables, and the flowers of certain synganesious plants, particularly those of a species of *Senecio*, which, at the time I visited the district in which the animal appears only to exist, formed its favourite diet. To obtain those flowers, it was frequently observed seated upon rocks or stones, near to where they were growing; and by means of its fore feet, bringing them into positions in which they could be conveniently consumed. When feeding, it showed little fear of man; and unless closely approached, continued actively devouring flower after flower, although it could not have been insensible to its being observed and watched. When frightened, however, by too close an approach, it immediately fled to its hiding place; which, as already mentioned, was either under a loose stone, or in the crevice of a rock; and when it took to such, under the circumstances mentioned, it seldom left them again, until the object which had excited its fears had disappeared.





EURYOTIS IRROBRATUS.
(Mammalia, Plate 22.)

EURYOTIS IRRORATUS.—BRANTS.

MAMMALIA.—PLATE XXII.

E. suprâ aurantio-ruber densè brunneo aut nigro-brunneo-penicillatus; capitis, corporisque lateribus etiamque pedibus similibus sed pallidioribus et lineis minus distinctis; subtus sordidè griseo-flavus livido-umbratus; caudâ suprâ brunneo-rubrâ, subtus flavo-albâ; auribus rufo-flavis brunneo-penicillatis; oculis brunneo-nigris; villo subrigido.

LONGITUDO ab apice nasi ad basin caudæ 8 unc. 1 lin.; caudæ 3 unc. 5 lin.

EURYOTIS IRRORATA, Brants. Het. Geslacht der Muisen Berlyn, 1827.

MUS IRRORATUS, Licht.

COLOUR.—The surface colours of the upper parts of the head, neck, and body, are orange red, and umber or blackish brown nearly in equal proportions, and most intimately mingled, the one colour as if profusely pencilled with delicate lines of the other. The lateral parts of the head and the body, together with the extremities, are similarly coloured, only the tints are duller and paler, and the limits of the different colours not so distinctly defined. The under parts, from the chin to the tail, dusky greyish yellow, and clouded by the dark colour which prevails on the deeper portions of the fur. Toes superiorly dark umber-brown; the point of the muzzle reddish orange. Ears pale sienna-yellow, freely pencilled with brown. Tail superiorly brownish red, inferiorly dusky yellowish white. Eyes brownish black; whiskers reddish brown. The inner or concealed portion of the fur a dark slate colour. Incisors of upper jaw yellow, shaded with reddish orange.

FORM, &c.—Head rather narrow, flat behind, anteriorly slightly arched; muzzle rather compressed, and the hair on its point superiorly quite erect; nostrils opening laterally; the tip of the nose about two lines in advance of the anteriormost portion of the upper lip, the latter divided vertically. Ears moderately large, rather long, rounded at the points, and slightly fleshy. Body long and moderately robust; legs short; tail cylindrical and tapering to the point, thinly beset with recumbent rigid hair, through which the cuticular scales, arranged in rings, are distinctly visible, the tip with a slender pencil of rather long and rigid hairs. The three middle toes of hinder feet

EURYOTIS IRRORATUS.

nearly of equal length, the two others much shorter ; the two middle ones of the fore-feet equal, the inner one shorter, but slightly longer than the outermost. The hairy covering generally moderately dense, strongly recumbent, slightly rigid, and longest on the back and sides of the body. The incisor teeth of both jaws, each with a strong longitudinal groove on its anterior surface, the grooves nearest to the outer edges. For further details relative to the teeth and viscera, see the letter-press for Pl. XXV.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the point of the nose to			Length of the fore-legs	1	2½
the tip of the tail	11	6	hind-legs	2	5
of the tail	3	5	tarsus of hind-legs	1	2½
Distance from the nose to the eye	0	9½	Height when standing	2	8
eye to the ear.....	0	8¼			

The colours of the *femule* are similar to those of the male.

This is the species which the collector, who commences his labours near Cape Town, will first acquire. It ranges more to the southward than either of the others, and is even found in marshy spots close to Cape Point. In such situations it is usually seen near the roots of bushes or clumps of rushes, and to the densest parts of these it flies for concealment when its fears are excited. On the other hand, if hunted or more than usually alarmed, it seeks safety by entering the subterranean burrows with which it is always provided, and which exist beneath the vegetation in which it generally secretes itself. These burrows are commonly short and tortuous, and in them the female generally forms her nest and produces her young.

The roots of rushes and other vegetable products appear to constitute the principal food of this animal, at least such may be inferred from the character of the substances with which the stomachs of those were filled which I examined. In some, however, something like portions of insects were also discovered.

The colour of this species is much darker than that of the other two species which inhabit South Africa, and by that peculiarity it may be readily recognised. In addition to that diagnostic character, others, more important and less liable to vary, are furnished by the cranium and teeth, as will be seen, in detail, by reference to Plate XXV. and its letter-press. The existence in this species of a longitudinal groove in each of the incisor teeth of the lower jaw serves to distinguish it from *E. unisulcatus*, Cuvier, in which they are plain, and the breadth and depth of the grooves, besides their being more remote from the outer edges of the teeth, indicate a specific difference between *E. irroratus* and *E. Brantsii*. In the former the grooves are very delicate, particularly in the lower incisors, and close to the external edges of the teeth ; in the latter they are strongly developed in all, but more especially in those of the lower jaw.



EURYOTIS UNISULCATUS.
(Mammalia. Plate 23.)

EURYOTIS UNISULCATUS.—F. CUVIER.

MAMMALIA.—PLATE XXIII.

E. supra flavo-rufus, brunneo penicillatus; capitis corporisque lateribus sordido-cinereis, flavo-rufo umbratis; subtus pallidè griseo-albus, ochreo tinctus; auribus magnis, patulis, apicibus semicircularibus, externe et interne flavo-albis, brunneo penicillatis; villo lanuginoso.

LONGITUDO ab apice nasi ad basiu caudæ 7 unc.; caudæ 3 unc. 6 lin.

OTOMYS UNISULCATUS, F. Cuvier.

COLOUR.—The prevailing colour of the upper and lateral parts of the head, neck, and body, intermediate between sienna-yellow and buff-orange, — the tint much broken by a number of fine umber-brown *strice* resembling delicate lines formed by a pencil. The lateral parts of the head and body dusky ash grey, tinged with the predominant colour of the back; the under parts, from the chin to the vent, together with the upper lip and the extremities pale cream-yellow. The ears internally and externally pale sienna-yellow, pencilled with brown. Tail superiorly dull brownish red, inferiorly dirty rusty yellow. Whiskers reddish brown; eyes brownish black; incisors dull orange yellow.

FORM, &c.—Head moderately large, sides bulging; muzzle narrow, laterally compressed; tip of nose bare; upper lip divided anteriorly. Whiskers long, bushy, and slightly rigid; ears large, patulous, semicircular, thin, and with a moderate coating of short rigid hair. Body robust; legs and toes short; claws nearly straight, pointed and freely covered with rigid hair. Tail cylindrical, tapered, and thinly coated with short bristly hair, the cuticular scales visible in rings. The fur consists of two sorts; the one—the predominant—slightly rigid, particularly on the back; the other which is scanty, is soft, woolly, and scattered among the latter towards the skin. The first is longest and densest on the back and sides, and in all situations slightly recumbent. The incisors of upper jaw, each with a longitudinal curve anteriorly, near to the outer

EURYOTIS UNISULCATUS.

edge of the tooth; those of lower jaw plain. For further details, see letter-press to Pl. XXV.

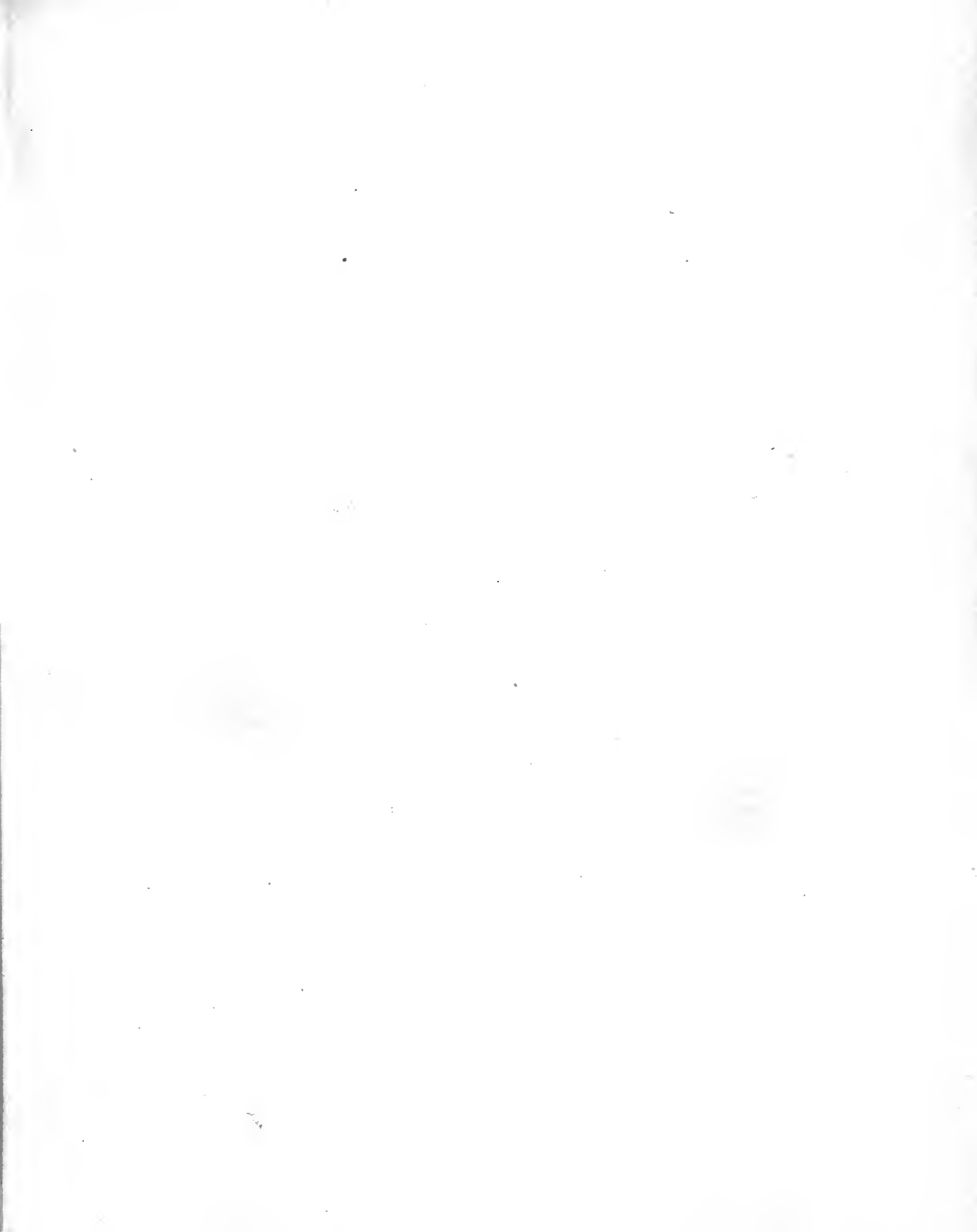
DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the point of the nose to			Length of the fore-legs.....	1	1
the tip of the tail.....	10	6	hind-legs	2	1
of the tail.....	3	6	tarsi of hind-legs	1	0½
Distance between the nose and the eye	0	9	Height when standing	2	6
between the eye and the ear	0	9			

The surface colours of the *female* are rather darker than those of the male.

This species does not occur so far to the southward and westward as *E. irroratus*; its favorite resort appears to be arid localities in the central and eastern districts of the colony. Besides aridity and a certain quantity of soft sandy soil, the existence of a shrubby vegetation appears also essential, at least it is only found in situations so provided. Its existence or non-existence in a locality is readily ascertained; if it exists, large hemispherical or irregular masses, composed of an aggregation of small dry twigs, will be seen, more or less, surrounding the stems, of such shrubs as occur, and even often advancing high among their branches. These masses are formed by the animal, and are traversed in all directions by its burrows. Under such piles, and in the passages by which they are intersected, the animal seeks shelter and safety from danger, at the same time, like *E. irroratus*, it is moreover provided with deeper-seated retreats, into which it may retire should its comfort or safety appear to render the step necessary. The last-mentioned retreats consist of subterranean burrows, not extending beyond the area covered by the accumulated twigs, but much branched; and in all cases in which we have followed up individuals and secured them, we invariably required first to demolish the superincumbent mass, and then explore the underground burrows. In the latter, the female generally, though not invariably, produces her young, and these, when discovered, are enclosed in a nest consisting of soft dry grass.

The general colour of *E. unisulcatus* is considerably lighter than that of *E. irroratus*, but decidedly darker than that of *E. Brantsii*. The incisors of the lower jaw, being without grooves, furnish one of the most available diagnostic characters; the great size of its ears, when compared with those of the other two species, also affords means by which it is to be readily distinguished from them.





EURYOTIS BRANTSII.
(Mammalia Plate 24)

EURYOTIS BRANTSII.—SMITH.

MAMMALIA.—PLATE XXIV.

E. suprâ pallidè isabellinus, nigro-brunneo-penicillatus; capitis corporisque lateribus grisco-albis, brunneo-penicillatis; infrâ sordidè albus, subochreo-tinctus; pedibus isabellinis; caudæ dimidio proximo nasique apice rufis; caudæ dimidio ultimo brunneo-rubro; dentibus incisoribus flavis.

LONGITUDO ab apice nasi ad basin caudæ 6 unc. 9 lin.; caudæ 3 unc. 9 lin.

EURYOTIS BRANTSII, Smith.—South African Quarterly Journal, New Series, vol. i. page 150.

COLOUR, &c.—The surface colour of the upper and lateral parts of the head and body pale sienna-yellow, variegated with blackish or umber-brown—the variegations abundant and resembling delicate streaks made by a pencil. The sides of the head, neck, and body, are greyish-white pencilled with umber-brown, and the chin, throat, and belly, greyish-white, with here and there tints of cream-yellow. The extremities are pale cream-yellow clouded with sienna-yellow. The point of the nose and the first half of the tail are reddish-orange; the last half of the latter brownish-red. The ears externally and internally are a pale ochrey-yellow pencilled with black; whiskers brownish-red. Incisors of upper jaw dull gallstone-yellow, lower ones intermediate between saffron and sienna-yellow. Eyes blackish-brown; nails a dark horn colour. The inner or concealed portion of the fur is of a dull slate colour, darkest on and towards the back. The delicate variegations arise from the hairs, individually, being blackish-brown at the points and sienna-yellow or greyish-white between the black and the slate colours.

FORM, &c.—Figure squat; head rather large, above slightly convex, laterally bulging, the muzzle rounded superiorly, laterally compressed; nose pointed; nostrils circular and opening laterally; upper lip anteriorly divided by a vertical groove; whiskers long and slightly rigid; ears rather small, fleshy, and semicircular; body robust; legs short and strong; nails slightly curved and pointed. Tail cylindrical, robust, and tapering from the base to the point, at the base, closely covered with short rigid hair; towards the tip the covering is less dense, admitting of the cuticular scales, which are arranged in circular rings, being seen through it; the very tip of the tail

EURYOTIS BRANTSII.

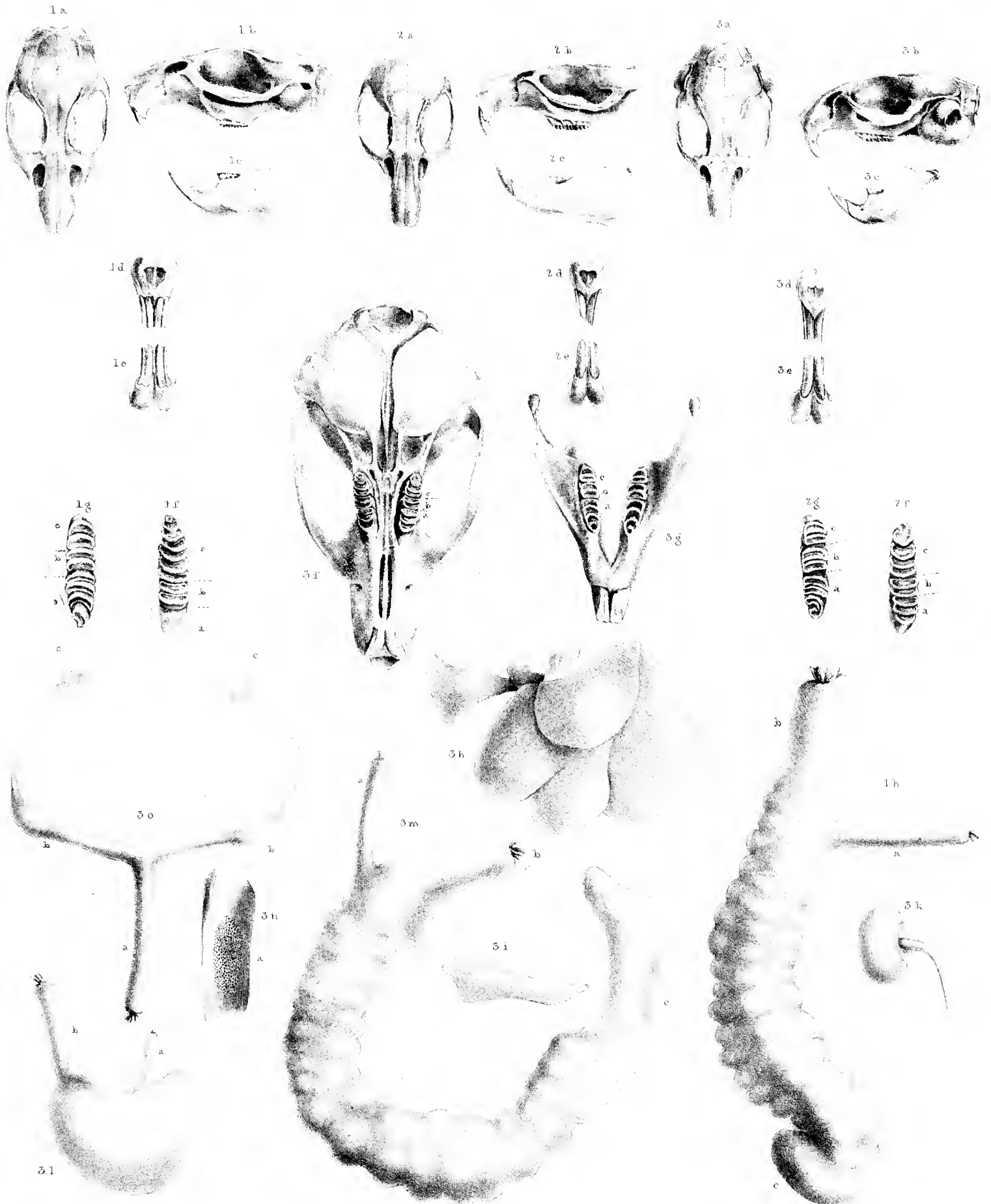
furnished with a slender pencil of long rigid hairs. The general covering of the animal is of two descriptions—the one, the predominant, a slightly rigid hair, the other a woolly fur, which is thinly disposed among the former, and from being shorter is concealed by it. The hairy portion is strong, recumbent, and much longer on the back and sides than on the head and extremities.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the point of the nose			Distance between the eye and the ear	0	10
to the tip of the tail	10	6	Length of the hind-legs	2	7
of the tail	3	9	fore-legs.....	1	3½
Distance between the tip of the nose			tarsus of hind-legs	1	3½
and the eye	0	10	Height of the animal when standing .	2	9

The female is a little smaller than the male, and her colours are lighter and less variegated. In many the colour of the upper parts is pale but clear sienna-yellow faintly pencilled with brown, and the lateral and under parts intermediate between cream-yellow and greyish white.

This species is an inhabitant of the interior districts of South Africa, and is never found towards Cape Town, nor in situations resorted to by either of the others described, though both of them extend as far north as the country in which it abounds. It resorts to open arid plains, and is very common in certain places towards the mouth of the Orange River. It lives in burrows under ground, and these are always formed in situations where neither grass nor shrubs exist upon the surface; and, as many individuals are always congregated, the number of holes by which the subterranean abodes are reached is generally great and they are closely set together. In these underground retreats they seek their safety when alarmed, as well as their repose during the night, and in them the females also produce their young. During the daytime, if not employed in search of food, most of the inhabitants of these burrows are generally to be seen, sitting on their hind-legs, upon the edges of their holes, basking in the sun; and so great is their love of heat, that the utmost pains is taken to enjoy, in every possible way, the full influence of the sun's rays. They are extremely watchful, and from their effecting a retreat with great rapidity, it becomes very difficult to shoot them, which if practicable, is the way in which they are to be procured with least actual labour. To dig them out is a process of great toil, as the burrows, though not in general very deep, are so long, so branched, and so connected with each other, that an area of many yards will sometimes be turned over, and even then possibly not a specimen be obtained. In their marked disposition to congregate, they differ both from *E. irroratus* and *E. unisulcatus*, but particularly from the latter, more than two of which are never found inhabiting the same spot, though many others may be distributed over the neighbourhood. For the characters by which this species is to be distinguished from *E. irroratus*, see the remarks on that species, and Plate XXV.



GENUS EURYOTIS BRANTS.
(Mammalia. Plate 25)

GENUS EURYOTIS.—BRANTS.

MAMMALIA.—PLATE XXV.

- 1 *a* A view of the upper surface of the skull of *Euryotis irroratus* of the natural size.
 1 *b* A lateral view of the skull of do. do.
 1 *c* A lateral view of the lower jaw of do. do.
 1 *d* A front view of the incisor teeth of the upper jaw of do. do.
 1 *e* A front view of the incisor teeth of the lower jaw of do. do.
 1 *f* The teeth of the right side of the upper jaw of do., of three times their natural size.
 a. The first or anterior tooth; *b.* second or middle tooth; *d.* third or hind-tooth.
 1 *g* The teeth of the left side of the lower jaw of do. do.
 a. The first or anterior tooth; *b.* second or middle tooth; *d.* third or hind-tooth.

The skull is long and rather narrow, its length, from the anterior extremities of the ossa nasi to the hinder aspect of the occipital bone, one inch seven and a half lines; its breadth immediately behind the zygomatic arches eight lines. The frontal bones between and in front of the eyes are narrower than in the other species; five and a half lines in length. The nasal bones increase suddenly in width towards their anterior extremities, the increase giving rise to a lateral bulge on each side, which commences about half way between their two extremities; length of each bone nine lines. The molar teeth are six in each jaw, three on each side, and have true fangs; their crowns are intersected by narrow, slightly prominent transverse ridges of enamel, which are separated from each other by intervening grooves. The first or anterior tooth of the upper jaw has — ridges; the second two; the third six, and a small elevated enamel ring which forms the hind-point. The first tooth of the lower jaw is the longest, and its crown is crossed by four ridges; the second and third each by two. The incisors of the upper jaw are strong, and slightly arched, their points cutting; each is marked anteriorly, with a deep longitudinal groove near its outer edge. Where the groove terminates there is a slight emargination, in consequence the tip of each tooth appears more or less bifid. The incisors of the lower jaw slightly arched forwards, and their points bifid and cutting; the anterior surface of each tooth with a deep longitudinal groove near its outer edge.

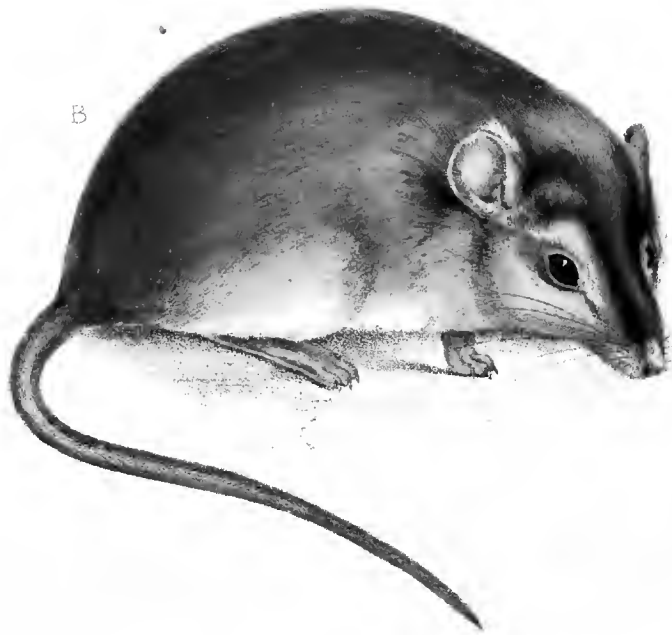
- 1 *h* The cæcum, &c., of *Euryotis irroratus*.
 a. The small intestines; *b.* the large; *c.* the apical portion of cæcum, without cells.
 2 *a* A view of the upper surface of the skull of *Euryotis unisulcatus* of the natural size.
 2 *b* A lateral view of the skull of do. do.
 2 *c* A lateral view of the lower jaw of do. do.
 2 *d* A front view of the incisor teeth of the upper jaw of do. do.
 2 *e* A front view of the incisor teeth of the lower jaw of do. do.
 2 *f* The teeth of the right side of the upper jaw of do. do.
 a. The first or anterior tooth; *b.* second or middle tooth; *d.* third or hind-tooth.
 2 *g* The teeth of the left side of the lower jaw of do. do.
 a. The first or anterior tooth; *b.* second or middle tooth; *d.* third or hind-tooth.

Length of the skull from the anterior extremities of the nasal bones to the hinder aspect of occipital bone one inch five lines; width at the hinder extremities of zygomatic arches seven and a half lines. The breadth of the frontal bones, between and before the eyes rather greater than in *E. irroratus*; length six and a half lines; the length of the nasal bones seven and a half lines, and they increase a little in width towards their anterior extremities, but there is not that sudden enlargement which is observed in the corresponding bones of *E. irroratus*. The first molar tooth of the upper jaw has its crown divided by three distinct transverse ridges of enamel; the second

EURYOTIS BRANTSII.

by two, and the third has three ridges, and also a very irregular or deeply indented enamel ring behind the last. The first *molar* of the lower jaw with three ridges, the anterior of which is prolonged so as to constitute an edging to the whole of the portion of the tooth in front of it; the second and third with two ridges, each of which appears distinctly divided into two *laminae*, between which there is a portion of bony matter. The incisors of both jaws are slightly arched, and their points cutting; each of those of the upper jaw with a slender groove near its outer edge, and the point slightly emarginate, those of the lower jaw plain, the points entire and nearest to the inner edges of the teeth. The molar teeth in the animals of this genus appears to consist of strongly compressed tubes of enamel, each inclosing a portion of bony matter.

- 3 *a* A view of the *upper surface of the skull of Euryotis Brantsii* of the natural size.
- 3 *b* A lateral view of the *skull* of do. do.
- 3 *c* A lateral view of the *lower jaw* of do. do.
- 3 *d* A front view of the *incisor teeth* of the upper jaw of do. do.
- 3 *e* A front view of the *incisor teeth* of the lower jaw of do. do.
- 3 *f* A view of the *under surface of the skull* of do. of twice the natural size.
a. The first or anterior tooth; *b.* second or middle tooth; *c.* third or hind-tooth.
- 3 *g* A view of the *lower jaw* of do. do.
a. The first or anterior tooth; *b.* second or middle tooth; *c.* third or hind-tooth.
- The skull of this species, particularly towards its hinder extremity, is wider in proportion to its length than that of either of the other two, and the *frontal* bones between the eyes are broader. The length of the skull from the anterior extremities of the nasal bones to the hinder aspect of the occipital bone one inch five and a half lines, and its width immediately behind the *zigomatic* arches seven and a half lines. The length of the *frontal* bones are six and three quarters lines, that of the *nasal* bones six lines. The first *molar* tooth of the upper jaw with three transverse, slightly elevated ridges, the second with two, and the third with three, behind the last ridge of the latter there is a slight, somewhat circular, concavity edged by enamel forming the hinder portion of the crown of the tooth. The first tooth of the lower jaw with three transverse ridges, the anterior one continued forwards along the inner edge of the tooth afterwards curved, first outwards, and then inwards and backwards; the second tooth with two ridges, and the third with three. The *incisors* of both jaws slightly arched, their points cutting, and very slightly emarginate; each of those of the upper jaw distinctly marked with a narrow longitudinal groove towards its outer edge, those of the lower jaw also grooved, the grooves so delicate however as only to be visible when examined with attention near to their outer edges.
- 3 *h* The *liver* of *Euryotis Brantsii*, consisting of four irregular shaped lobes, some of which are slightly subdivided.
- 3 *i* The *spleen* of *Euryotis Brantsii*, slender and three-sided.
- 3 *k* The *kidney* of do.
- 3 *l* The *stomach* of do.
a. The cardiac orifice; *b.* the pyloric orifice.
- 3 *m* The *cæcum*, &c., of do.
a. The small intestines; *b.* the large intestines; *c.* the situation of a *gland* the duets of which open on the inner surface of the *cæcum*. The latter towards its apex, smooth, elsewhere with several rows of cells.
- 3 *n* The inner surface of the apical portion of the *cæcum*;—*a.* the opening by which the secretion of the glands, already mentioned, is discharged.
- 3 *o* The *vagina* and *uterus*.
a. The *vagina*; *b.b.* the *cornua* of the uterus; *c.c.* the ovaria.



GERBILLUS AURICULARIS. (A Male, B Female)
(Mammalia.—Plate 26)

GERBILLUS AURICULARIS.—SMITH.

MAMMALIA.—PLATE XXVI.—MALE AND FEMALE.

G. *suprà* fulvus, *infra* albus; capite *suprà*, dorso, caudâque brunneo-penicillatis; cirro albo post aurem utramque. Oculis profundè brunneis. Caudâ brevi.

LONGITUDO corporis cum capite 4 unc. 10 lin; caudæ 3 unc. 3 lin.

GERBILLUS AURICULARIS.—Smith, South African Quarterly Journal, No. 2, New Series, March 1834.

GERBILLUS BREVICAUDATUS, F. Cuv.—Transactions of the Zoological Society of London, Part ii. vol. 2, page 144; 1836.

COLOUR.—*Male*.—The upper surface of the muzzle and head reddish orange, deadened with a faint shade of brown; the back and sides of the body intermediate between ochre and sienna-yellow, the former distinctly, the latter indistinctly variegated with delicate short striæ of an umber brown hue; the fur of these parts is tricoloured, being of a dull slate huc towards the base, ochry yellow in the middle, and dark brown at the surface. The sides of the muzzle, the eyebrows, the sides of the head, the whole of the fore legs, the tarsi of the hinder legs, and the under surface of the neck and body, all pure white, except the tarsi, which are slightly tinted with grey. The tail and outer surface of the hinder legs, towards the body, the same colour as the sides, the under surface of the former rather lightest. Ears a pale flesh colour, and behind each a broad tuft of long white hair, most distinctly seen when on the animal's being excited, the ears are erect. Whiskers brownish red. Eyes deep umber brown. Claws pale yellowish brown.

FORM, &c.—Figure short and thick; muzzle slender, head moderately broad. Ears rather small, subovate, semicircular at the points, and nearly destitute of fur. Legs short, and rather slender. Tail robust, tapered from the base, and thickly covered with short, recumbent, wiry hair. The *incisors* of upper jaw slightly arched, and each with a central longitudinal groove anteriorly; the *incisors* of the lower jaw compressed, slender, subhorizontal, or only slightly curved and without grooves. The first or anterior *molar* of each jaw largest, the last smallest; the first of the upper and lower jaw are formed nearly alike, the crown of each consists of three distinct portions separated from each other by two deep transverse *fossæ*, the first portion is somewhat cylindrical, with a cup-shaped cavity at its summit, round which is an edging

GERBILLUS AURICULARIS.

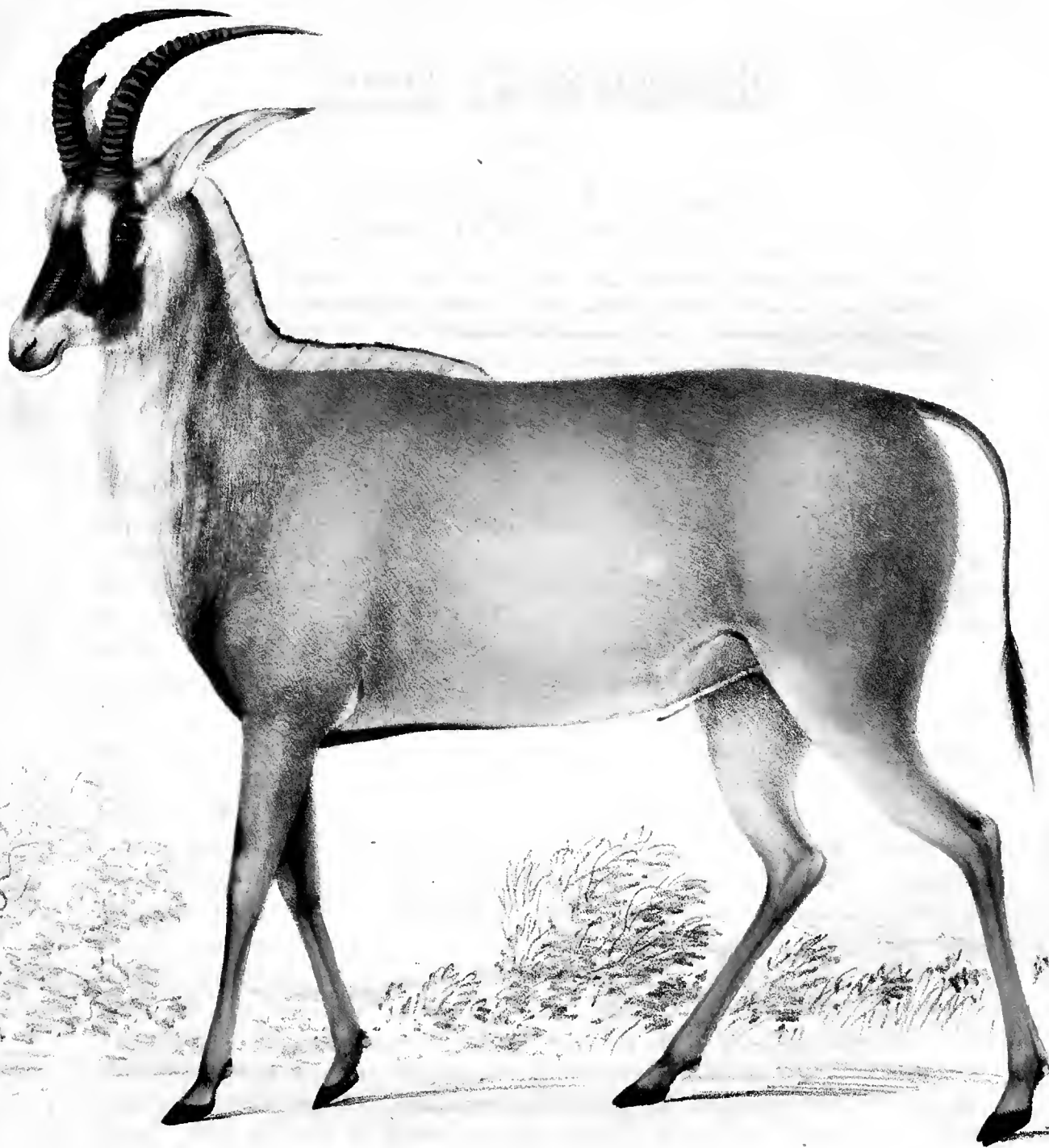
of enamel, the second and third portions have somewhat the form of the Greek letter β , each portion with two rounded or oval cavities edged with enamel; the second *molar* of the upper jaw has the crown divided transversely into two parts, each of which is similarly formed to the two last described portions of the first *molar*; the second *molar* of the lower jaw similarly divided, but not exhibiting a resemblance to the letter β ; the anterior portion with a slight transverse *fossa* at the summit, the last portion convex: the third *molar* of the upper jaw, small cylindrical, and with a cup-shaped cavity at its apex, which is surrounded by enamel; the third *molar* of the lower jaw consists of a simple transverse lamina, without any cavity at its apex which is convex like the last portion of the second molar of the same jaw. Temporal *bullæ* large, hemispherical and semi-transparent.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the point of the nose to			Distance between the eye and the ear .	0	4
the base of the tail	4	10	Length of the ear	0	3
of the tail	3	3	of the tarsus of hind legs.....	0	7
Distance between the tip of the nose			Height when standing.....	2	1
and the eye	0	8			

The *female* (figure B) differs a little in colour from the male; the upper parts of the head, together with the back and sides, are intermediate between yellowish brown, and sienna yellow, and all of these parts are variegated as in the male with short delicate striæ but of a deeper colour; the extent of white over the eyes is greater and the post-auricular tufts of white hair are smaller; in other respects the two sexes appear much alike.

The shortness of the tail and the tuft or fringe of white hair behind each ear constitute characters by which this animal is easily distinguished from the other species of the genus. It never occurs, so far as I know, within three hundred miles of Cape Town, and all the specimens which I have seen were procured in the western districts of the continent, principally north of the Orange river. It is said to be of migratory habits, and seldom to remain for any length of time in one locality; it flits generally, if not always, during the night, and forms its burrows in the new districts under cover of the darkness. It generally selects an open grassy plot for its residence, and if such a spot is to be found in the neighbourhood of brushwood, that appears to be invariably preferred. Its food consists of small insects, &c.



AIGOCEROS EQUINA.
(Mammalia Plate 27) Male.

AIGOCEROS EQUINA.—DESMAREST.

MAMMALIA.—PLATE XXVII.—MALE.

A. corpore extremitatibusque sublactifloribus, humeris, dorso, natibus, artubusque externe rubiginoso-aurantio-tinctis; capitis lateribus, fascici medio, pectoreque rubro-nigris; superciliis, fasciâ ante oculos, mento, regionibusque circa angulum oris et rhenarium albis; jubâ flavo-albâ supernè brunneo-rubrá, aurantiâque margiuatâ. Oculis aurantio-brunneis.

LONGITUDO ab vertice ad basin caudæ 5 ped. 11 unc. ; caudæ 2 ped. $4\frac{1}{2}$ unc.

ALTITUDO ad interscapulium 4 ped. 6 unc. ; ad prynam 4 ped. $4\frac{1}{2}$ unc.

ANTILOPE OSANNE, *Geoffr.* Collect. du Mus.

ANTILOPE EQUINA, *Id.*—TAHAITSIE of the Bechuannas.

COLOUR.—The body and extremities rusty cream-yellow; the shoulders, back, buttocks, and outer surface of limbs darkened with rusty reddish-orange; neck pale cream-yellow, with a strong greyish tint; throat yellowish white; the sides of the head, between the base of the horns and the angles of the lower jaw, together with the middle portion of the face and breast, chocolate-red; the hairs of the face are chesnut-brown towards their roots. Belly dirty white. Tail brownish red. The sides of the head under the ears, the eyebrows, the anterior part of the lower jaw, the region around the angles of the mouth, and throat adjoining the muzzle white; from the eyebrow the white colour is prolonged obliquely downward for some inches towards the angle of the mouth, and partially divides the dark colour of the cheek from that of the face. The mane is yellowish white, and is margined with two darker colours; the external one, which tinges the tips of the hairs is rich brownish red; the inner one, which is less defined, is intermediate between orpiment and buff orange. Ears, externally, pale fulvous, tipped with dark brown, internally white. The inner surfaces of the thighs greyish white. The fore legs anteriorly, for about six inches above the knee joints, are chocolate-red, and a narrow stripe of the same colour descends from each knee to the pastern-joint; the true and the accessory hoofs are at their bases distinctly edged with hair of the same colour, and the whole of the covering of each

AIGOCEROS EQUINA.

pastern-joint posteriorly is of the same hue. Eyes deep orange-coloured brown. Hoofs liver-brown. Horns between yellowish and umber-brown.

FORM, &c.—Figure robust and elegantly proportioned. Head at and behind the eyes broad and deep, before the eyes comparatively narrow and delicate,—the transition from the one state to the other sudden. Neck very thick and powerful. Muzzle small and somewhat semilunar in shape, anteriorly prolonged to the edge of the upper lip. Horns directly above the eyes and strongly recurved, the first two-thirds of each scabrous from elevated rings, the last third smooth and tapered. The number of rings varies according to the age of the animal, being generally in a well grown specimen from twenty to twenty-four, they are commonly most developed near where they cease to exist, and are generally very faint on the external aspect, probably from their being worn down by friction; the animal being much addicted to the practice of rubbing its horns against trees, rocks, &c. The transverse section of a horn has a somewhat oval shape, the posterior portion being the broadest. The ears are situated about four and a half inches behind the horns, and are long, rather narrow and slightly falcated towards their tips; the tips slightly obtuse and somewhat truncated; internally they are lined with long soft hair, externally with a short and rigid sort. The crest of the neck is surmounted with a compressed thin mane which commences a few inches behind the ears, and terminates on the hollow of the back a short distance behind the withers; it is highest where the neck joins the body, and lowest towards its origin and termination. For some inches behind the former the hair forming the mane, lies forwards, that of the other parts is nearly perpendicular. Withers a little elevated and slightly arched, not however to an extent to form a sensible hunch. Tail terminated by a small brush of long hair, the origin of which is sudden and well defined, above the brush the hairy covering is short, and on the under aspect of the tail very scanty. Hoofs rather small and each foot is furnished with an unguinal sinus; inguinal pores two; inguinal mammae four. Hair covering the upper parts of the neck, the body and the extremities short, rigid and recumbent; that on the lower part of the neck long and rather shaggy.

DIMENSIONS.

	Feet.	Inches.		Feet.	Inches.
Length from the nose to the base of the tail	7	6	Distance apart at points	0	10½
of the tail	2	4½	between the eye and the nose	0	11½
of the head	1	8	Depth of the head about midway between the horns and the ears	0	10
of the ears	0	10¼	Height at the withers	4	6
of the horns, following the curve	2	3½	at the croup	4	4½
Distance apart at base	0	1¼			

AIGOCEROS EQUINA.

The horns of the female are smaller than those of the male; the neck is much less robust, and the figure generally more delicate.

The range of this species is very wide, and specimens have been found wherever Southern Africa has been explored. Not very many years ago the animal was frequently seen within the northern boundary of the Cape Colony, and if we are to credit the statements of the Aborigines, there was a time when it occurred much more to the southward than even the locality alluded to, and from which it has now in a great measure, if not completely, disappeared. It is an animal which congregates, and commonly from six to twelve individuals are found associated together. Herds of this description are generally met in districts abounding with small hills or hilly ridges, and to such elevations they appear to resort in preference to the plains. The number of herds in any given tract is comparatively small, so that the animal, though generally diffused, is, nevertheless, nowhere abundant. Its pace is a gallop, which, in appearance, is of a heavy character, but its progress is amazingly rapid. It is an animal extremely vigilant, and always appears to be in fear of enemies; hence, it comes seldom within the range of the hunter's gun.

Aigoceros equina and *A. niger* are the only species of the groupe I have seen in South Africa. *Aigoceros leucophaea* and *A. barbata*, I am inclined to believe, are fictitious species constituted upon bad descriptions of *A. equina*. In consequence of its being said* that the only specimen of *Antilope Leucopæa* now known is in the Museum of Paris, I requested a friend of mine to apply for permission to take a drawing of it. The request was no sooner made than M. Geoffroy afforded every possible facility. After an examination of the drawing, which was made with great care, I had no difficulty in coming to the conclusion that the Paris specimen was a young male of *A. equina*; the former differs from the latter only in wanting the chocolate-red colour on the face and breast; the same want is observed in young individuals of *A. equina*—the parts in question are light rufous instead of chocolate-red. The Aborigines are very acute in recognizing in drawings any of the animals with which they are acquainted; yet I could never find the man who would admit that he had seen any thing like the *Tahaitisie* of Daniels, though I showed his plate of the animal to many persons with hoary hair, who had been born and had grown old in the very country in which it was said to exist.

* The Animal Kingdom, translated by Griffiths, &c. vol. iv. page 177.

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Elizabeth Lee	1414 Oak St	San Francisco	CA	1917
William Miller	1515 Pine St	San Francisco	CA	1918
Anna Moore	1616 Cedar St	San Francisco	CA	1919
Charles Taylor	1717 Birch St	San Francisco	CA	1920
Grace White	1818 Spruce St	San Francisco	CA	1921
Frank Young	1919 Willow St	San Francisco	CA	1922
Harriet Hall	2020 Ash St	San Francisco	CA	1923
George King	2121 Hickory St	San Francisco	CA	1924
Elizabeth Lee	2222 Sycamore St	San Francisco	CA	1925
William Miller	2323 Magnolia St	San Francisco	CA	1926
Anna Moore	2424 Poplar St	San Francisco	CA	1927
Charles Taylor	2525 Chestnut St	San Francisco	CA	1928
Grace White	2626 Walnut St	San Francisco	CA	1929
Frank Young	2727 Elm St	San Francisco	CA	1930
Harriet Hall	2828 Oak St	San Francisco	CA	1931
George King	2929 Pine St	San Francisco	CA	1932
Elizabeth Lee	3030 Cedar St	San Francisco	CA	1933
William Miller	3131 Birch St	San Francisco	CA	1934
Anna Moore	3232 Spruce St	San Francisco	CA	1935
Charles Taylor	3333 Willow St	San Francisco	CA	1936
Grace White	3434 Ash St	San Francisco	CA	1937
Frank Young	3535 Hickory St	San Francisco	CA	1938
Harriet Hall	3636 Sycamore St	San Francisco	CA	1939
George King	3737 Magnolia St	San Francisco	CA	1940
Elizabeth Lee	3838 Poplar St	San Francisco	CA	1941
William Miller	3939 Chestnut St	San Francisco	CA	1942
Anna Moore	4040 Walnut St	San Francisco	CA	1943
Charles Taylor	4141 Elm St	San Francisco	CA	1944
Grace White	4242 Oak St	San Francisco	CA	1945
Frank Young	4343 Pine St	San Francisco	CA	1946
Harriet Hall	4444 Cedar St	San Francisco	CA	1947
George King	4545 Birch St	San Francisco	CA	1948
Elizabeth Lee	4646 Spruce St	San Francisco	CA	1949
William Miller	4747 Willow St	San Francisco	CA	1950



KOBUS ELLIPSIPRYMNUS.
(Mammalia Plate 28) Male.

KOBUS ELLIPSIPRYMNUS.*

MAMMALIA.—PLATES XXVIII. AND XXIX.

K. flavo-griseus, aurantio-brunneo obscuratus; maculâ longâ supra oculum, labiis, fasciâ gulari, ellipsique prynali albis; cornubus procurvis, annulatis; caudâ flocosâ.

LONGITUDO ab vertice ad basin caudæ 5 ped. 6 unc.; caudæ 20 unc.

ALTITUDO ad interscapulium 4 ped.; ad prynam 4 ped. 3 unc.

AIGOCEROS ELLIPSIPRYMNUS, *Ogilby*, Proceedings Zool. Society, 1833, page 47.

(Male. Plate XXVIII.)

COLOUR.—The chaffron, the forehead, the body, the tail, and the anterior extremities above the knee-joints, and the hinder ones above the houghs intermediate between yellowish-grey and ash-grey; the tint in many places, particularly on the back, much darkened and variegated with a dull orange coloured or russet-brown. The grey is the predominating colour, being the tint of the basal two-thirds of each hair, and the brown occurs at the tip of each hair, and also in the form of one or more rings behind the brown points. The eyebrows and a narrow space under each eye white, which colour is also observed on the upper lip and on the parts immediately adjoining the hinder and lateral edges of the muzzle. The sides of the neck and the throat immediately behind the head are crossed by a narrow white stripe, which extends nearly from ear to ear, and on the croup and nates, about four inches before the base of the tail, there is a broad and well-defined white band in the form of an ellipse. The sides of the head are yellowish-grey, which on the lower jaw is darkened with orange-coloured brown; the latter colour at the points of the hairs as already described. The outer surface of the ears and legs below the knees and houghs bright orange-coloured brown. Ears internally dirty white. Eyes yellowish-brown. The true and accessory hoofs liver-brown, the hair at their base dirty white. Horns between yellowish and umber-brown.

FORM, &c.—Figure rather robust and heavy; limbs strong, but not inelegant. Head rather long for its thickness, and gradually tapered from the forehead, having the sides before the eyes convex. Muzzle heart-shaped, the apex reaching the edge of the upper lip. Ears ovate, patulous and

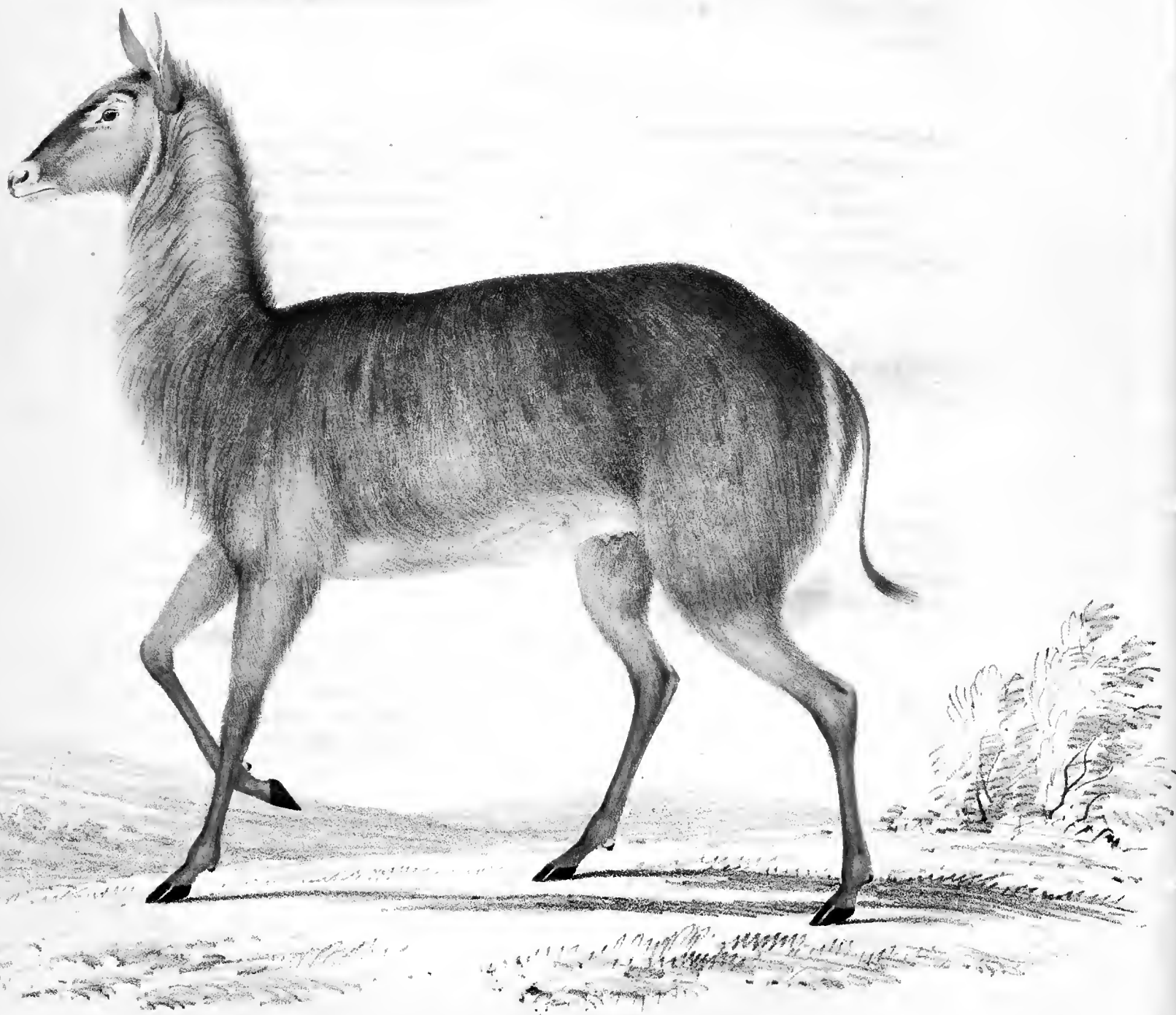
* Characters of *Kobus*. *Horns* in the male only, long, pointed and slightly flexuous; *muzzle* moderately developed, somewhat heart-shaped; no suborbital sinuses nor glands; stature large or rather large; frame robust; hair harsh and long or rather long; tail reaching to about the houghs.

KOBUS ELLIPSIPRYMNUS.

pointed, internally coated with long soft hair disposed in longitudinal *striae*, which are divided from each other by intervening naked spaces, externally thickly coated with close and short rigid hair. The hair generally is coarse and wiry, that which covers the chaffron, the lips, the outer surface of the ears, the anterior extremities and the hinder ones below the houghs, short and dense, that elsewhere long and shaggy; on the anterior parts of the body the hair is longer than on the hinder parts, and on the neck longest. On the middle of the back about a foot behind the shoulders, a small whorl exists, and in front of that all the hairs of the back are directed forwards, while those behind extend backwards. Tail cylindrical and tapered, tip tufted with long hair, elsewhere the covering is short and dense. Groins nearly bare, no inguinal pores, scrotum densely covered with short white hair, no inguinal sinuses nor sub-orbital glands. Eye-balls full; the expression of the eyes fierce, and indicative of ferocity and determination.

Horns placed upon the frontal crest over the posterior angles of the eyes; the first half of each extends slightly backward and much outwards, the next half forwards and inwards with a uniform curvature, the concavity of which is in front; in form they are somewhat cylindrical, the first or basal half being marked with elevated rings, varying in number from twelve to twenty-three, and extending more or less upon the last half; the rings do not appear in general to be complete, or at least equally distinct upon the outer side of the horns, apparently from being rubbed down by friction; the extreme or distal portion of each horn smooth. Between the *annuli* the horns are marked with deep and regular *striae*, which observe a longitudinal direction.

VISCERA.—The stomach consists of four pouches: the first is very large and nearly oval, the second, third, and fourth are comparatively small; the communication between the first and second is very small, between the second and third considerably larger. The first pouch especially adjoining the entrance of *æso*phagus is lined with numerous slender, but firm and pointed *papillæ*, each about two lines in length; the second stomach is very muscular and of a roundish form, internally furnished with loose membranous folds, each of which is edged with fine hard minute *papillæ*; the third is thinner than the second, and like it is furnished internally with loose membranous folds, but without *papillæ*. Cæcum smooth internally, and not sacculated. The stomach from the entrance of the *æso*phagus to its lower edge two feet in length, the greatest breadth of the first pouch 18 inches. Small intestines 60 feet long; large intestines 20; cæcum 15 inches. Spleen about a foot in length, firmly attached to the stomach, and deeply emarginate on the lower edge. Liver massive, broader than deep, and inferiorly partially



KOBUS ELLIPSIPRYMNUS.
(Mammalia Plate 29.) Female.

KOBUS ELLIPSIPRYMNUS.

divided into two lobes by a narrow fissure which extends nearly half way from the lower towards the upper edge, two small *lobuli* on its concave surface; gall bladder pyriform, and firmly attached to the concave surface of the liver, and its lower extremity descends a little below the inferior edge of the *viscus*.

DIMENSIONS.

	Ft.	Inch.		Inch.	Lin.
Length from the nose to the base of the tail	6	10	Length of the horns	24	0
from the nose to the base of the horns	1	0	Distance between the horns at the base	2	0
of the tail	1	8	between the horns at the greatest curvature outwards	11	6
of the ears	0	9	between the points of the horns	8	6
Height at the croup	4	3	between the nose and the eye	9	6
shoulder	4	0	eye and the ear	4	0

(Female. Plate XXIX.)

The figure of the *female* is more delicate than that of the *male*, and the hair with which she is covered is generally longer. Her general colour is also paler, owing to there being less of the russet-brown to darken the yellowish-grey. She has four inguinal *mammæ*.

This animal, which has, from the time it first became known to the Cape Colonists, been designated by them under the name of "The Water Bok," was not seen by our party till after we had passed to the northward of Kurrichane; and if we are to trust the evidence of the natives, it is never met with to the southward of the high lands, which extend to the eastward of the locality mentioned. To the northward, however, it is a common animal, and is generally found associated in small herds of from eight to ten individuals, near the margins of streams. We were struck from the first with the small proportion of males in these herds, and on remarking upon the circumstance to the Aborigines, they gave their testimony in support of the accuracy of our observations. Rarely, in a herd of twelve, were there more than two or three males, and of these seldom more than one which might be regarded as mature. The natives were of opinion that the sexes were produced in about that proportion, and even made use of the assumed fact in support of the propriety of polygamy as it exists among uncivilized men, asserting that a like disproportion occurred in the human species. A marked disproportion between males and females I have also noticed in herds of other species of the Antelope tribe, both in the colony and much nearer to it; but the circumstance was always accounted for in a different way by persons with whom I conversed on the subject. It was affirmed that the great superiority in number of the one, arose from the adult males driving out the young ones from the society of the herds, and forcing them to live apart until they had acquired the strength necessary to enable them to hold their place in a mixed society, which was not probably before some proportion of the elder had ceased to exist, and left room for the few able-bodied to join company and become active agents in extending to others that line of discipline to which they themselves had been subjected. It is possible this may be the correct mode of ac-

KOBUS ELLIPSIPRYMNUM.

counting for the occurrence, but I must confess I have never had the good fortune to find herds of young males living by themselves; though I have been assured by credible persons, that such had often come under their observation.

When *Kobus ellipsiprymnus* is feeding, it has the appearance of being a clumsy and unprepossessing animal; but, on the contrary, when excited, it is elegant and stately; at such times it holds its head high, and assumes a lively and spirited position. Its pace is a gallop, and generally all the individuals of the herd brush off at the same time, each making the best of its way without endeavouring, as some other of the Antilopes do, to follow in the train of a leader. When disturbed they generally fly from the places where they are discovered towards the higher grounds of the neighbourhood, and if unable to reach them, without passing through water, they manifest neither fear nor disinclination to plunge into the stream—hence the origin of the name by which they are designated by the colonist. Their flesh is in little repute, even with the Aborigines, though it is not quite rejected; the dislike to it arises from its being of a hard and stringy texture, and from exhaling a strong urinous odour. The flesh of *Aigoceros equina* is also rather hard, strong, and somewhat unsavoury, its skin like that of *Kobus ellipsiprymnus* is thick, very compact and firmly attached to the muscles, and there are also various other points in which the two animals strongly resemble each other.

In consequence of having found that I could not, upon satisfactory grounds, class *Aigoceros ellipsiprymnus* in any of the yet constituted groupes into which the Antilope family has been divided, I came at last to the resolution of establishing one to receive it. The value of the groupe, however, I have not ventured to surmise, being of opinion that in the present state of the science the naturalist is often hampered by difficulties created merely from an inclination to accomplish more than is to be done consistent with the knowledge we yet possess. In the groupe which I propose for the South African animal I feel inclined also to place two Antilopes of Western Africa, the *Koba* and *Kob* of Buffon. These, in consequence of the peculiarities of their characters, have been variously classed by different authors, and it clearly appears to me, that if our animal is not to be admitted into any of the already established forms, certainly the two above mentioned must be equally excluded, while they must be viewed as standing within the limits of the groupe we propose. The following, in our opinion, will be the species which will belong to it:—

Kobus ellipsiprymnus, *Aigoceros ellipsiprymnus*. OGI^LBY.

Kobus senegalensis, Antilope senegalensis. DESM.

Kobus Adansoni, Antilope, Kob. ERXLER.

CONFIDENTIAL

MEMORANDUM FOR THE DIRECTOR, FBI

RE: [Illegible]

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BUBALUS CAAMA
(Mammalia Plate 50) Male

BUBALUS CAAMA.—OGILBY.

MAMMALIA.—PLATE XXX.—MALE.

B. capite, cervicæ, corporeque subcinnameis; fronte, facie, vertice, maculâ ad basin auris, lineâ cervicali extremitatibusque externè suprâ genu brunneo-rubris griseo nitentibus; oculis pallidè rubro-aurantiis.

LONGITUDO è naso ad basin caudæ 6 ped. 11 unc.; caudæ 1 ped. $4\frac{1}{4}$ unc.

ALTITUDO ad interscapulum 3 ped. $10\frac{3}{4}$ unc.; ad prynam 3 ped. $6\frac{1}{4}$ unc.

HARTBEEST, *Sparman*, Voyage to the Cape of Good Hope, vol. ii. p. 199.

ANTILOPE CAAMA, *Schreb*, Goldfuss, pp. 11. 74.; tab. 277

ANTILOPE BUBALIS, *Pallas*, *Erxleb*. *Gmel*. *Bodd*.

HARTEBEEST of the Cape Colonists.—KAMA of the Bechuanna.

COLOUR.—The colour of the head, neck, and body intermediate between light brownish orange and yellowish brown; the back, the sides of the neck superiorly, the outer surfaces of the shoulder and the anterior edge of each haunch darkest, being nearly of a cinnamon-colour. The belly and the inner surface of the limbs towards the body rusty white. The forehead and chaffron, from a little below the eyes to the nostrils, are brownish red, and these two marks are separated from each other by a transverse band, about three inches in depth, of the same colour as the body. From the forehead the brownish red colour is continued between the horns, behind which it spreads out and forms the tint of the crown of the head. From each side of the dark colour of the crown, a broad stripe of the same hue proceeds downwards and forwards, and forms an edging to the base of each ear interiorly, and anteriorly; while another stripe of a narrower character and fainter hue proceeds along the back of the neck, and terminates either at the shoulder or at the croup. The same colour occurs also upon all the extremities, most abundantly on their outer surfaces, above the knees and houghs. At and for some inches above the joints, it extends almost completely round the limbs, but higher than that it is confined to the outer surfaces, and even does not occupy the whole of these, as a part of the thighs anteriorly and of the fore legs posteriorly, are of the same colour as the body; on both the anterior and posterior extremities, it terminates a little above the line of the belly; on

BUBALUS CAAMA.

the fore ones it is narrow and pointed superiorly, on the hinder blunt, rounded and arched obliquely backwards and upwards. The brownish red of the parts described is strongly glossed with grey. The extremities below the knees and houghs are light yellowish brown softened with grey, except in front, where each is marked with a narrow stripe of dark hair, most distinct on the fore legs; the pastern-joints posteriorly are also of a dark brownish red colour. Lower lip pale reddish brown; space behind muzzle rusty white. Ears externally light yellowish brown, internally white; tail above at base the same colour as back, below white, towards tip reddish brown; horns between umber and yellowish brown; eyes light reddish orange.

FORM, &c.—Figure ill formed and ungainly, the hinder parts not developed in the same proportion as the fore parts. The height at the withers considerably greater than at the croup, which depends in some measure upon the greater length of the fore-legs, but chiefly upon the unusual elongation of the *spinous* processes of the first five or six dorsal *vertebræ*. The head is long and narrow, the forehead prominent superiorly, and bearing the horns. The latter are nearly cylindrical and almost in contact at their bases. The first two-thirds of each horn is scabrous from a series of elevated rings connected by longitudinal grooves, the last third smooth. The number of the rings vary according to the age of the animal; thus they are found sometimes not to exceed ten, at other times there are from sixteen to eighteen: they vary much also in regard to their perfection, being found in many individuals not surrounding more than two-thirds of the horns, and in others forming complete circles, especially upon the first third. In full grown, but especially in aged individuals, many of these rings are broken and knotted anteriorly, more particularly those which occur upon the second third. The direction of the horns is at first backwards, and outwards, then forwards, and slightly inwards, in a regular curve, the concavity of which is forward; the last third of each horn is directed backwards and slightly outwards, and lies nearly at a right angle with the first two-thirds. Eyes large and soft. Ears ovate and patulous. Muzzle small and shaped somewhat like the head of an arrow. About two inches below the inner corner of each eye there is a large flat and nearly circular suborbital gland and the fluid it secretes, which is viscid and tenacious, is discharged externally by one simple orifice; by this secretion, the surrounding hair is agglutinated into a hard mass, the appearance and situation of which will be understood from a reference to the figure. Each foot has an unguinal *sinus*, and there are two inguinal pores and two inguinal mammæ. The tail is slender, the first third covered with short, and the last two-thirds with long hair, the latter is all turned backwards and

BUBALUS CAAMA.

forms a compressed fringe or border posteriorly. The hair of the animal generally is soft, short, and recumbent. On the inner surface of the ears, it is rather long. Towards the tip of the lower jaw there are a number of rather long fine bristles.

DIMENSIONS.

	Ft.	Inches.		Ft.	Inches.
Length from the nose to the base of the tail	6	11	Distance between the eye and the nose	0	11 $\frac{1}{4}$
of the tail	1	4 $\frac{1}{4}$	between the horns at the base	0	0 $\frac{1}{4}$
from the tip of the nose to the base of the horns	1	5	between the horns at the tips	0	10 $\frac{1}{4}$
of the horns	1	9 $\frac{1}{2}$	Height at the withers	3	10 $\frac{3}{4}$
of the ears	0	7	eroup	3	6 $\frac{1}{4}$

The *female* is rather smaller in stature than the male, and the horns are less powerful, and neither so strongly ringed nor knotted. The colours are nearly similar.

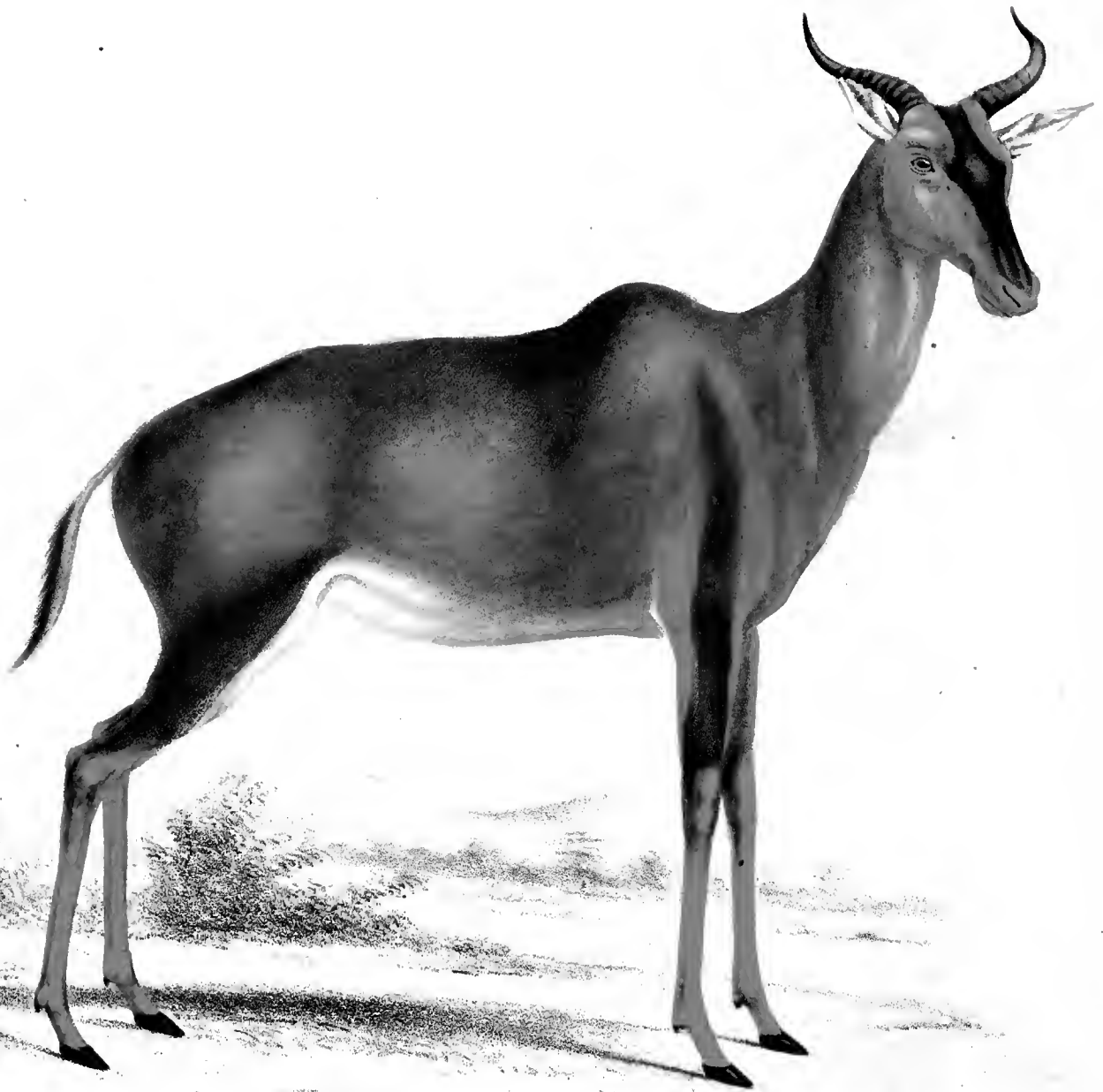
Wherever travellers from the Cape of Good Hope have reached, they have found the *Hartebeest*, and we, besides having actually killed specimens close to the tropic of Capricorn, have also heard of the animal existing much farther to the northward. At the same time that we had proofs of its residence in the latitude mentioned, we also had evidence that it does not occur so frequently there as it does more to the southward. In fact, from the parallel where *Bubalus lunata* began to occur, *Bubalus Caama* began to be rare, and from our observation we would be justified in pronouncing that the former took in a great measure the place of the latter in all the territory northward of 25° S. latitude.

The circumstance of a species being restricted in its range, and of having its place in an adjoining locality taken by a different one of the same genus, without there occurring at the time any deficiency of the food upon which the former is accustomed to feed, must ever afford a subject of interesting reflection to the field naturalist. That many species have limits beyond which they rarely extend, no one will doubt who has studied the animal productions of countries still favourably situated for actual observation; yet few, probably, will pretend that they have discovered the causes of such occurrences. Not many observers will be hardy enough to maintain that the *habitat* of a species is limited purely in consequence of its food being limited, since the majority must know that the substitution of one animal for another often takes place long before that food fails to exist upon which the one which has ceased to occur is prone to feed. Can the cause then be the influence of habit? While considering the circumstance, with proofs of its occurrence actually under our observation, we have occasionally been disposed to ascribe it to such an influence; but, we always found the conclusion untenable when we recollected that in all probability many of the instances we had the opportunity of observing could not have resulted from the power of an established habit, such as we supposed, inasmuch as we had often met individuals out of the favourite range of the species, though these individuals, having all the peculiarities of their kind as seen within what may be denominated their proper domain, had probably been produced and reared where we saw them. If, therefore, neither a want of special food,

BUBALUS CAAMA.

nor the influence of habit, can be regarded as the cause which limits the range of a species, we must look for it in something else, and that something, I have no doubt, we shall find to be a law of the Creator, and that the animals who are under the influence of that law are kept within the districts destined for their abode, without any exertion of their own will. Many curious facts in corroboration of this opinion, may be acquired in South Africa, and much is to be found there calculated to incline us to an opinion that the movements, migrations, &c. of animals are the result of some imperative impulse, rather than the exercise of a free will. It appears to us that all species, whose ranges it is intended shall be circumscribed, are formed with dispositions and feelings suited to the localities which they are destined to inhabit, and that these, which are co-existent with life, regulate the movements of every individual of the species. As tending to support this conclusion, we may instance what occurs in South Africa with two species of *Catoblepus* (Gnu). During a certain season of the year both species inhabit the same districts; but during the remaining portion, one of the species resort more to the southward in large herds, and there feed, though it is exposed to almost incessant danger from the colonial hunters. The latter, while advancing to the southward, is accompanied a part of the way by the other species, but on arriving at the southern branch of the Orange River, the one ceases to advance, while the other crosses the stream, and proceeds into the colony year after year to encounter the colonial hunters, and acquire a food exactly similar to that it might have secured without migrating. Numerous other instances of a like description we shall hereafter notice.

The *Hartebeest*, by preference, inhabits an open country, and hence is generally observed upon the plains in small herds consisting of from six to ten individuals, and often where the plains are extensive, many of such groupes are to be seen within the range of the eye. It is a very wary animal, and views with strong suspicion the advance of man, so that unless favoured by special circumstances, he finds it an animal difficult to procure. When disturbed, the herd generally scampers off in the train of some acknowledged leader, and they are rarely seen when flying, except in a string, one animal upon the heel of another. Their pace is a sort of heavy gallop, and though they do not appear to move with rapidity, yet the ground over which they go in a given time shows that their progressive motion is far from slow. When first they start, they appear extremely awkward, and generate in the observer an impression that to overtake them must be no very difficult task. After they have advanced a little, however, the apparent stiffness in the joints of the hinder extremities disappears, and even the indications of weakness of the hinder limbs becomes so indistinct, that he is soon satisfied of the inaccuracy of his first conclusion. This and the *Bubalus lunata* are the only antilopes of South Africa, which exhibit the peculiarity alluded to, and have led many to remark their resemblance in this respect to the *Hyæna* and *Proteles Lalandii*. In all of these animals there is a disproportion between the development of the anterior and posterior parts of the body, and each of them appears when in motion as if its hinder extremities were too weak for the duties they were destined to perform.



BUBALUS LUNATUS. (Female)
(Mammalia Plate 31)

BUBALUS LUNATUS.

MAMMALIA.—PLATE XXXI.

B. genis, cervice, corporeque subbadiis purpurco-grisco-lævigatis; fasciâ verticali inter nasem verticemque brunneo-griseâ, nigro-brunneo-marginatâ; artu singulo superne et externe faciâ verticali brunneo-griseo-notato; cornubus illis bovis subsimilibus. Oculis pallidè brunneo-rubris.

LONGITUDO e naso ad basin caudæ, 6 ped. 10 unc.; caudæ, 15¼ unc.

ALTIUDO ad interscapulum, 4 ped. 6 unc.; ad primum 3 ped. 6 unc.

ACRONOTUS LUNATA, *Hamilton Smith.*

SASSABY of the Bechuanna Kafirs.

COLOUR.—The sides of the head below the eyes, together with the neck and the body, are of a tint intermediate between hyacinth, red, and reddish orange, and over that, the ground colour, there is a distinct gloss of pale brownish purple red which gives an appearance similar to that produced when a light coloured varnish is applied over a dark ground; on the sides of the head and first half of the neck, the purplish hue is more palpable than elsewhere, and on the outer surface of the buttocks the ground colour is lighter than on any other part of the animal. The centre of the forehead and face is a dark brownish grey, margined on each side with dull blackish brown; on the face the stripe is of considerable breadth, and its lower extremity, which is angular and pointed, reaches close to the centre of the muzzle; on the forehead it is narrow, and above it terminates in the blackish brown hair of the vertex. The hair between the eyes and the base of the horns, as also that on each side of the facial stripe, and that which covers the upper lip intermediate between brownish and reddish orange; a narrow stripe on each side of nostrils light cream-yellow. The outer surface of the ears brownish orange; the inner surface white. A mark of a brownish grey colour, and of a similar character to that which exists upon the upper and outer portion of each leg of *Bubalus Caama*, also occurs in

BUBALUS LUNATUS.

this species. On each fore leg it descends almost to the knee joint, and for some inches above its termination is darker than elsewhere, and completely encircles the limb; above the point where the extension commences, the dark mark is restricted to a portion of the outer and anterior aspects of the leg, and under the same form in which it exists at the point of union between the body and limb it ascends upon the outer surface of the shoulder till it reaches within a few inches of the hunch, where it terminates in an indistinct point. Both anteriorly and posteriorly the upper portion of this mark is margined with a stripe of hair of the same colour as that which covers the upper lip; behind, the colour descends considerably lower than in front, its termination being not many inches above the knee joint. On the hinder leg the dark mark occupies the outer aspect of the thigh, and extends from the hough obliquely upwards and forwards till it disappears immediately above and outside of the groin; towards its lower extremity it also completely encircles a portion of the limb. Below the knees and houghs, the colour is light reddish orange. The belly and inner surface of the legs towards the body are rusty white or dull cream-yellow. The hair of the first third of the tail is of the same colour as the body, that of the last two-thirds is cream-yellow at the root, and dirty umber-brown at and towards the point. Eyes, light brownish red; muzzle, black; hoofs, blackish brown; horns, light blackish brown.

FORM, &c.—Figure nearly similar to that of *Bubalus Caama*. The head is rather compressed, posteriorly it is of considerable depth, anteriorly it is narrow and attenuated; muzzle narrow and shaped somewhat like the letter V. Eyes large, and about an inch below the internal angle of each, there is a small bare spot, about four lines in diameter, with a narrow vertical fissure along its centre, from which exudes, upon pressure being applied, a thin glairy fluid. The chin and the upper and lower lips are sparingly sprinkled with rigid bristles. Ears ovate and pointed, their inner surface coated with long hair disposed in longitudinal bands. The horns are placed on the summit of the head, each upon a separate and slightly elevated peduncle; they first extend outwards and slightly backwards, then outwards and upwards in a curve, and lastly, towards the points they form a curvature inwards: their appearance altogether is very similar to horns which are often seen upon oxen. The first half of each horn is encircled by a number of slightly raised rings; the last half is quite smooth, and throughout the whole of their length they are nearly cylindrical. The neck is rather slender, and the hunch on the shoulder is arched and very prominent. The legs are rather slender, and the hoofs long and narrow. The outline of the back is waved, and strongly declivous towards the tail; the latter, towards its base, is covered with short

BUBALUS LUNATUS.

hair; the last two-thirds is fringed posteriorly with long hair, all directed backwards; the under surface of the tail is bare and the skin soft and delicate. Teats two, udder and groins covered with short fine hair; no inguinal pores.

DIMENSIONS.

	Ft.	Inch.		Ft.	Inch.
Length from the nose to the base of the tail	6	10	Distance between the eye and the nose	0	11
of the tail	1	3 $\frac{1}{4}$	between the horns at the base	0	3 $\frac{1}{2}$
from the tip of the nose to the base of the horns	1	3 $\frac{1}{2}$	between the horns at the tip	1	1
of the horns	1	1	Height at the withers	4	0
of the ears	0	7	at the croup	3	6 $\frac{1}{2}$

The colours of both sexes are nearly the same, and little discrepancy exists in point of size. The upper part of the neck of the male is generally broader than that of the female, a circumstance observed in most of the antelope tribe.

Between the appearances of the horns of *Sassaby* and *Caama* there are such marked differences, that we must at once conclude no valid importance ought to be attached either to the form or direction of horns in the grouping of species. The subocular glands also differ materially in these two animals; in *Caama*, they are covered with short hair, similar to that of the other parts of the face; in *Sassaby* they are without covering. In *Caama*, the last portion of the tail is completely encircled with hair; in *Sassaby* the sides and upper surface only are so furnished, the under surface being bare. In general appearance the two animals present a strong resemblance to each other.

The *Sassaby* has rarely been known to advance to the southward of Latakoo, and at present but few individuals reach the latitude of that place, which the aborigines ascribe to the dread the animal has of fire-arms. To the northward and eastward of Latakoo, however, specimens are to be seen in tolerable numbers, yet not in the abundance in which they occur in the country northwards of Kurrichane. While *B. Caama* seems to prefer the open grassy plains for its feeding places, the *Sassaby* apparently delights to resort to situations in the vicinity of wood, or to such as are actually wooded, and in districts of the latter description large herds are often observed feeding among the dense brushwood without apparent concern. All the individuals we saw near to Latakoo were vigilant in watching our motions, and apparently little disposed to trust themselves within our reach; while those again on the other side of Kurrichane were comparatively tame, and though they did not actually resist our approach, yet they often continued in the situations in which we discovered them, until they were quite within the range of our guns, and even after being fired at they only retreated slowly, and rarely without frequently

BUBALUS LUNATUS.

turning round as they retired to watch our movements. Their retreat, after each examination of the kind mentioned, was commonly preceded by some significant springs or strange gesticulations, such as are often made by common domestic cattle when they are put to flight by any object which excites their alarm. In point of manners, both the *Sassaby* and the real *Hartebeest* show a considerable resemblance to the bovine tribe, and, except the Gnu, *Catoblepas*, more than any of the other antelopes.



CEPHALOPUS NATALENSIS.
(Mammalia. Plate 32.)

CEPHALOPUS NATALENSIS.—SMITH.

MAMMALIA.—PLATE XXXII.

C. rubro-aurantius, dorso natibusque externè brunneo-aurantio-umbratis; capitis cervicisque lateribus, gutture, abdomineque subochreis. Cristâ verticali rubro-aurantio nigro-brunneoque coloratâ; cornubus griseo-nigris; oculis brunneis.

LONGITUDO ab vertice ad basin caudæ, 2 ped. $2\frac{1}{4}$ unc.; caudæ 4 unc.

Altitudo ad interscapulium 1 ped. $3\frac{1}{2}$ unc.; ad prymnam 1 ped. 6 unc.

CEPHALOPUS NATALENSIS, *Smith.*—South African Quarterly Journal, second series, vol. i. p. 217; 1834.

COLOUR.—The face, the upper surface of the neck, the back, the sides, and the extremities, reddish orange; the back and outer surface of buttocks darkened with a shade of brownish orange. The sides of the head and neck, the throat and the belly a light buff-orange. The lower part of the face near to the muzzle, the upper surface of the neck, the posterior parts of the hocks, and the pastern joint of each leg strongly blushed with purplish brown. The sides of the lower jaw, at, and immediately behind the angles of the mouth, the space between the *rami* of the lower jaw, and the edge of the anterior portion of the upper lip, white. One portion of the long hairs composing the tuft on the crown of the head, the colour of the body, and the other, the central portion, dark blackish brown. Tail towards the tip dusky brown, with variegations arising from an intermixture of some dingy white hairs, towards the root it is of the colour of the body. The hairs on the inner surface of the ears dusky, on the outer surface purplish brown. Eyes dark brown. Muzzle black. Horns and hoofs greyish black.

FORM, &c.—Body slender and elegantly formed; limbs long and delicate. Head rather long and much tapered towards the nose; chaffron slightly arched. Under each eye there is a narrow longitudinal black line devoid of hair, and with a fissure about an inch and a quarter in length along its centre, through which in the living animal exudes a limpid glairy fluid. The crown of the head is surmounted by a dense tuft of rather long rigid hairs which conceals the horns; the latter, which are about an inch and a quarter in length, are inclined slightly backwards, and are rather thick towards their base, but

CEPHALOPUS NATALENSIS.

slender at the points. Ears broad, short, and pointed; muzzle and outer edges of nostrils bare. Tail slightly tufted and bare underneath. Hoofs long, slender and pointed.

DIMENSIONS.

	Ft.	Inch.		Ft.	Inch.
Length from the nose to the base of the tail	2	8½	Length of the hinder legs	1	¾
of the tail	0	4	Distance between the eye and the ear...	0	2
of the head	0	6¼	between the nose and the eye	0	3
of the ears	0	2½	Height at the croup.....	1	6
of the horns	0	1¼	at the shoulder	1	¾
of the fore legs	0	11¾			

Female unknown.

Taking *Antilope silvicultrix*, Afzelius, and *A. mergens*, Blain., as the typical species of a group, we shall find no difficulty in extending it by an addition of several other species of African origin, which, both in respect of physiognomy and general characters, manifest such a striking similarity to the typical species, that persons the least accustomed to judge of resemblances, will scarcely even find a difficulty in indicating them. Hence *Cephalopus* must be regarded as a regular and natural group, and one likely to stand when those instituted upon characters, deduced from the mere modifications presented by aberrant species, will require to be discarded. The little animal we have here described, under the name of *C. Natalensis*, is clearly entitled to a place in the group in question; and though both it and *Antilope carulea* (H. Smith), have certain characters peculiar to themselves, yet they have all the requisites essential to rank them in the genus *Cephalopus*. In both of these species the female as well as the male is always furnished with horns, and in this respect they differ from the other species of the group which occur in South Africa,—the females of which are almost always found without horns, yet individuals are occasionally killed in which they exist; hence it would appear that their presence or absence ought not to be highly considered in establishing the generic characters. Both *C. carulea* and *C. Natalensis* inhabit the African forests; the former towards the Cape of Good Hope, the latter to the eastward about and beyond Port Natal. They both feed partly upon the grass which occurs among the underwood, and partly upon the young leaves and shoots of the brushwood and small trees which exist in the situations they inhabit; and to obtain the latter they may occasionally be seen scrambling among shrubs, or ascending the stem of sloping trees, so as to reach what they cannot attain while they are on the ground.



OTOMYS ALBICAUDATUS.
(Mammalia Plate 33)

OTOMYS ALBICAUDATUS.—SMITH.*

MAMMALIA.—PLATE XXXIII. (MALE.)

O. supra brunneo-griseus, profundè brunneo-penicillatus; infra sordidè subcinereus; caudà ferrugineo-
albâ; pilis versus radicem schistosis; oculis profundè brunneis; auribus magnis.

LONGITUDO ab nasi apice ad basin caudæ 5 unc. 9 lin.; caudæ 2 unc.

Otomys albicaudatus, *Smith.*—South African Quarterly Journal, vol. i. p. 148. 1834.

COLOUR.—Head, back, and sides wood-brown, tinged with grey, and sparingly pencilled with umber-brown; the grey tinge is strongest upon the upper and lateral parts of the head and neck, the pencilling of umber-brown is very distinct upon the centre of the face, the vertex, the back of the neck, and the superior parts of the body, on the upper portion of the sides it is less marked, and on the inferior portions nearly wanting. The lower parts of the sides, the belly, the fore-legs, and the inner surfaces of the hinder legs dusky ash-grey; outer surfaces of buttocks the same colour as the back; feet wood-brown, tinged with grey. Tail rusty white. Chin and lips white. Ears internally flesh-coloured, with a purplish tinge, the few hairs which exist towards their outer edges dusky-brown, the outer surfaces the same colour as the back. Muzzle flesh-coloured. Eyes a deep rich brown. Teeth, ochry yellow. Whiskers partly black, partly silvery white. The colours of the head, neck, and body, as above described, are confined to the points of hairs; behind the points each hair is of a pale blackish purple or slate-colour. The pencilled appearance is occasioned by there being a number of long dark hairs interspersed among the fur: in some specimens these hairs are in great numbers, and in them the dark colour is very distinct.

FORM, &c.—Figure rather robust. Head broad behind, slightly convex above; before eyes it is narrow and somewhat cylindrical; nose truncated. Eyes large and rather prominent. Ears large, patulous, ovate, and pointed, both their surfaces with a thin sprinkling of short and rather rigid hair. Legs

* The group which we proposed, in 1834, to designate by the term *Otomys* is very different from that to which the same term has been applied by F. Cuvier. He employed *Otomys* as a substitute for *Euryotis*, Brants; hence exposed it to be classed as a synonym.

OTOMYS ALBICAUDATUS.

rather short; feet small; nails pointed, slender, and slightly curved; each has a tuft of long and stiff hair which originate behind its base, and extends forwards beyond its point, concealing its upper surface. Tail cylindrical and tapered, everywhere densely covered with short rigid hair. Whiskers long and feeble. The fur generally is rather long, soft, silky, dense, and slightly recumbent, on the anterior parts of the head and on the extremities towards the feet it is short and rather rigid.

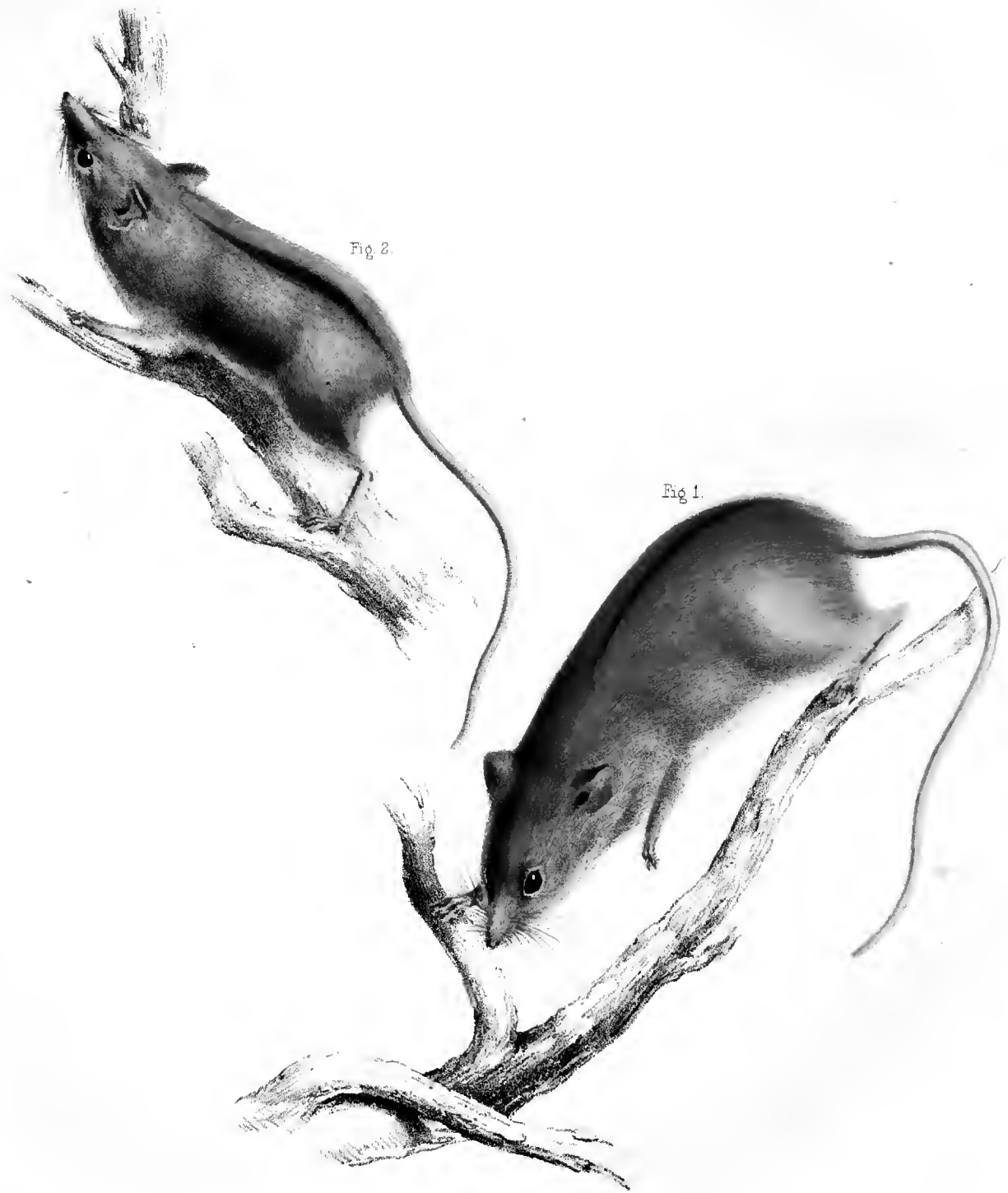
TEETH, &c.—Each of the *incisors* of the upper jaw has a superficial and rather broad groove along its anterior surface, nearer to the outer than the inner edge, the apex of the tooth is formed for cutting, and is slightly emarginate. The first of the *molars* is the largest, the last the smallest. The crown of the first consists of three transverse portions, which are connected by two short longitudinal processes, each of which, like the transverse portions, are margined with a narrow prominent rim of enamel: the second consists of two transverse portions and a longitudinal connecting process, all edged like the first: the third is undivided and completely edged with enamel. The *incisors* of the lower jaw are sub-cylindrical, pointed, and without grooves; the *molars* have their crown divided nearly in the same manner as those of the upper jaw, and the first and second have the same number of divisions. Length of skull $16\frac{1}{2}$ lines, breadth behind zygomatic arch 8 lines, breadth between the greatest convexity of the zygomatic arch of one side and the other 9 lines.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the point of the nose to			Length of the fore-legs	1	0
the tip of the tail.....	5	9	of the hind-legs	1	9
of the tail.....	2	0	Height when standing.....	2	6
of the head	1	5			

The colours of the *Female* are generally paler than those of the male.

This animal, according to my experience, is confined to the interior of South Africa, and specimens even in the districts in which it lives are procured with difficulty. I have myself only met with it in the neighbourhood of Graham's Town, and in the districts north of the Orange river, but I have reason to believe it occurs here and there between these points. It inhabits grassy flats, lives in burrows in the ground, and seeks its food during the night. It is particularly active and bold during rainy weather, and if individuals be known to exist in any particular locality, some of them at least may be readily procured at such times by placing a lantern with a light in it upon the ground. They soon approach the light, and may, while occupied in regarding it or passing to and fro, be easily disabled with a horse-whip, or such like instrument.



DENDROMYS TYPICUS.
DENDROMYS MELANOTIS.
(Mammalia. Plate 34.)

Fig 1.
Fig 2.

DENDROMYS TYPICUS.—SMITH.

MAMMALIA.—PLATE XXXIV. FIG. 1.

D. supra subferrugineus, lineâ longitudinali nigrâ inter nucham et caudæ basin ; labiis, partibus inferioribus extremitatibusque interne albis, pallide rufo-tinctis ; caudæ pilis superne brunneis, subtus subalbidis ; oculis nigro-brunneis.

LONGITUDO ab naso ad caudæ basin, 4 unc. 6 lin. ; caudæ, 5 unc.

DENDROMYS TYPICUS, Zoological Journal, vol. iv. page 439. 1829.

COLOUR.—The upper and lateral parts of the head, neck, and body yellowish brown strongly tinged with saffron-yellow ; the lips, the lower portion of the sides, the chin, throat, breast, belly, and inner surface of extremities white, faintly tinged with rufous. The hair of the ears the same colour as that of the back. Whiskers brown. Hair on the upper surface of the tail brown, on the lower surface whitish. Between the nape and the base of the tail there is a narrow blackish line which follows the course of the spinal column. Eyes blackish brown ; the upper incisor teeth pale ochre-yellow, the lower, whitish and semipellucid. The hairs of the head and body light blackish grey towards their roots ; those on the back and upper portion of the sides are of that colour till near their tips.

FORM, &c.—Figure slender and elongated. Head small and very narrow anteriorly ; the nose is almost pointed ; extremities slender, the fore ones very short, the hinder ones considerably more lengthened. Ears rather large and oval. The middle toe of the fore feet longer and stronger than the other two, the wart which supplies the place of the hinder toe small and obtusely pointed ; the outer toe of the hinder feet shortest, the next to it longest, the third rather shorter than the second, and the inner one shorter than the third, but rather longer than the outer one ; hinder toe very short, and consists of little more than the nail. Tail long, cylindrical, and rather smaller at the point than at the base, it is distinctly ringed and each ring consists of a series of small scales. Nails rather short and slightly curved. The fur of the head and body is long, soft, silky, and recumbent, that on both surfaces of the ears and on the lower joint of the leg short ; on the tail the little which exists is short and rather rigid.

DENDROMYS TYPICUS.

TEETH, &c.—The *incisors* of the upper jaw are deeply grooved and their cutting edges slightly notched. The anterior portion of the first *molar* tooth is crowned with four robust, obtuse *denticuli*, the last third of the crown is flat and exhibits two small cup-shaped cavities; the second tooth has the crown slightly concave, and marked with some small cup-shaped cavities; the last is very small, somewhat cylindrical, and with the crown is flat. The first *molar* of the lower jaw is crowned with four robust obtuse points, two towards its outer and two towards its inner edge, the second has two points near to the anterior margin of the crown, the remaining portion of the latter is distinctly concave; the last *molar* has its crown occupied by two ill-defined points standing transversely. For views of the teeth, see Mammalia, Plate 21. Fig. 2 *a*, the upper jaw of the natural size; 2 *b*, the lower of the same; 2 *c*, the *incisors* of the upper jaw, double the natural size; 2 *d*, the teeth, &c. of the upper jaw, three times the natural size; 2 *e*, the lower jaw and teeth magnified to the same extent.

DIMENSIONS.

	Inch.	Lin.		Inch.	Lin.
Length from the point of the nose to			Length of the fore legs	0	7½
the base of the tail	3	9	the hinder legs	1	3
of the tail	4	0	Height when standing	1	4
of the head.....	1	0			

All the specimens of this little animal which have come under my observation were caught upon trees, shrubs, and vines, and many of them were procured in the immediate neighbourhood of Cape Town. It is very active in its movements, and runs from branch to branch with great rapidity.

DENDROMYS MELANOTIS.—SMITH.

MAMMALIA.—PLATE XXXIV. FIG. 2.

D. supra cinereus rufo-tinctus, infra grisco-albus; lineâ longitudinali nigrâ, inter scapulas et basin caudæ, in medio dorsi; maculâ parvulâ albâ infra aurem, et unâ ante oculum nigrâ.

LONGITUDO ab nasi apice ad basin caudæ 3 unc.; caudæ 2 unc. 6 lin.

Dendromys Melanotis, *Smith*. South African Quarterly Journal, New Series,
No. 2, p. 158. 1834.

COLOUR.—The upper and lateral parts of the head, neck, and body and the outer surface of the extremities ashy grey with a distinct rufous or rusty tint, the latter colour is not so deep upon the hinder parts of the body as upon the head, neck, and anterior parts. The sides towards the belly, the upper lip, the lower portion of the sides of the head, the chin, throat, breast, belly, and inner surface of extremities greyish white; a blotch immediately in front of the eye brownish black. The hair of the ears is dull brown, and under each ear at its base there is a small tuft of white hairs. A longitudinal black line on the centre of the back, from the shoulders to the root of the tail. Whiskers blackish brown towards their roots, dusky white towards their tips. The hair of the upper parts of the tail dusky brown, of the lower parts dull white. Eyes blackish brown; *incisor* teeth ochry yellow. The fur of the body and head slate-coloured towards the skin.

FORM, &c.—Figure rather more robust than that of *Dendromys Typicus*; in other respects the form of the two animals are very similar. Ears broad, patulous and rounded at the points, both surfaces sparingly sprinkled with short hair. Toes long and slender, the inner one of the fore foot rather shorter than the other two, which are of equal length; nails slender, nearly straight and pointed. The tubercle which occupies the place of the thumb small and pointed. The outer toe of the hind-foot is rather short, the two next long and of equal length, the inner one is slightly shorter, the thumb is short and rudimentary. The thumb and outer toe are without nails, on the other toes the nails are like those of the fore feet, long, slightly curved, and pointed. The upper parts of the tail are rather closely covered with hair, the under parts more sparingly, and on the latter the scaly rings which encircle the tail are distinctly visible.

DENDROMYS MELANOTIS.

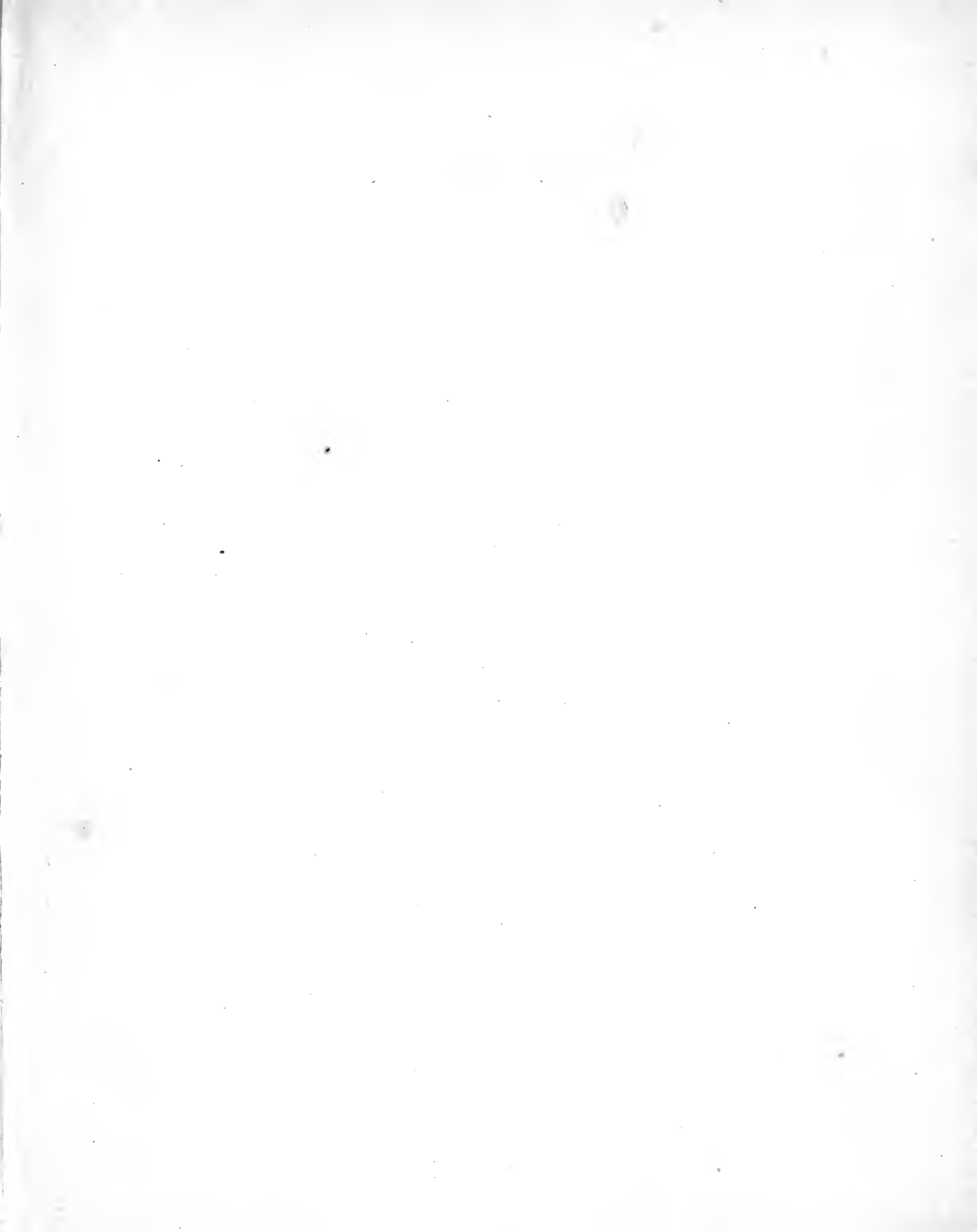
The *incisor* teeth of the upper jaw each have a deep longitudinal groove, the cutting edge is slightly emarginate; those of the lower jaw are plain and pointed.

DIMENSIONS.

	Inch.	Lines.		Inch.	Lines.
Length from the point of the nose to the			Length of the fore-legs	0	8
base of the tail	3	0	of the hind-legs	1	4
of the tail	2	6	Height when standing	1	4
of the head.....	0	11			

The colours of the *Male* and *Female* are nearly the same.

The only examples of this species which I have seen were procured about three hundred miles to the eastward of the Cape Colony, and all of them were upon underwood at the time they were obtained. Though it would appear that they are generally found upon shrubs, yet I am disposed to believe they also resort to the ground, and that probably they have their subterranean retreats to which they fly in case of danger, as one individual which I discovered upon a small shrub manifested a decided inclination to descend to the ground, and it would have accomplished its object, had it not been killed just as it was about to abandon the lowermost twig.





GERBILLUS AFER.
(Mammalia. Plate 35.)

GERBILLUS AFER.—GRAY.

MAMMALIA.—PLATE XXXV.

G. capite, dorso, lateribus supernè extremitatibusque externè versus corpus cinereo-isabellinis; capite, dorso, lateribusque supernè brunneo-penicillatis; partibus inferioribus artibusque internè albis; oculis brunneis; capite anticè attenuato; vellerè in capite rigido et breve, in corpore longiorè et lævigato.

Longitudo ab apice nasi ad basin caudæ $6\frac{1}{2}$ unc.; caudæ $5\frac{1}{2}$ unc.

GERBILLUS AFER, *Gray*, *Spicilegia Zoologica*, p. 10; 1828.

MERIONES SCHLEGELLI, *Smuts*, *Dissert. Zoolog. enum. Mam. Capen.* p. 41; 1836.

GERBILLUS AFRICANUS, *F. Cuvier*, *Transactions of the Zoological Society*, vol. ii., p. 143; 1836.

COLOUR, &c.—The ground colour of the head, the back, the upper portions of the sides, and the outer surface of the extremities towards the body intermediate between reddish orange and wood-brown, the head, back and higher parts of sides pencilled with deep umber-brown; the hairs towards their roots dull lavender-purple; tail coloured like the back, only not so freely pencilled. The lower parts of the sides, the belly, the chin, the throat, and the inner surface of the limbs towards the body white; the line of demarcation between the superior and inferior colours of the sides clearly defined. Tarsi rusty white. Ears internally a light flesh colour, except towards the margin, where there is a thin sprinkling of hair of a light umber-brown tint; externally they are thinly coated with hair of the same colour as that on the back. Eyes deep brown; claws of hinder feet towards their points horn-coloured, towards their base wood-brown, which is also the colour of the claws of the fore feet. Incisor teeth of upper jaw white, of lower jaw pale reddish orange.

FORM, &c.—Figure slightly robust, and moderately elongated; head rather lengthened, broad posteriorly, attenuated anteriorly, the point of the nose subacute. Eyes large; ears long, patulous, and ovate; whiskers long and rather rigid; fore legs short; hinder legs long, the claws of both, but more especially of the fore ones, elongated, slightly curved, and moderately strong; those of the fore feet are blunt, laterally compressed, and convex above; those of the hinder feet vertically compressed and sharp pointed. The fur covering the centre of the face and the forehead rather short and rigid, that of the other parts of the head, the body, and the extremities above the tarsi, long, soft, and recumbent; the hair of the tarsi, toes, and tail short, wiry and so closely set, as to form a continuous covering.

GERBILLUS AFER.

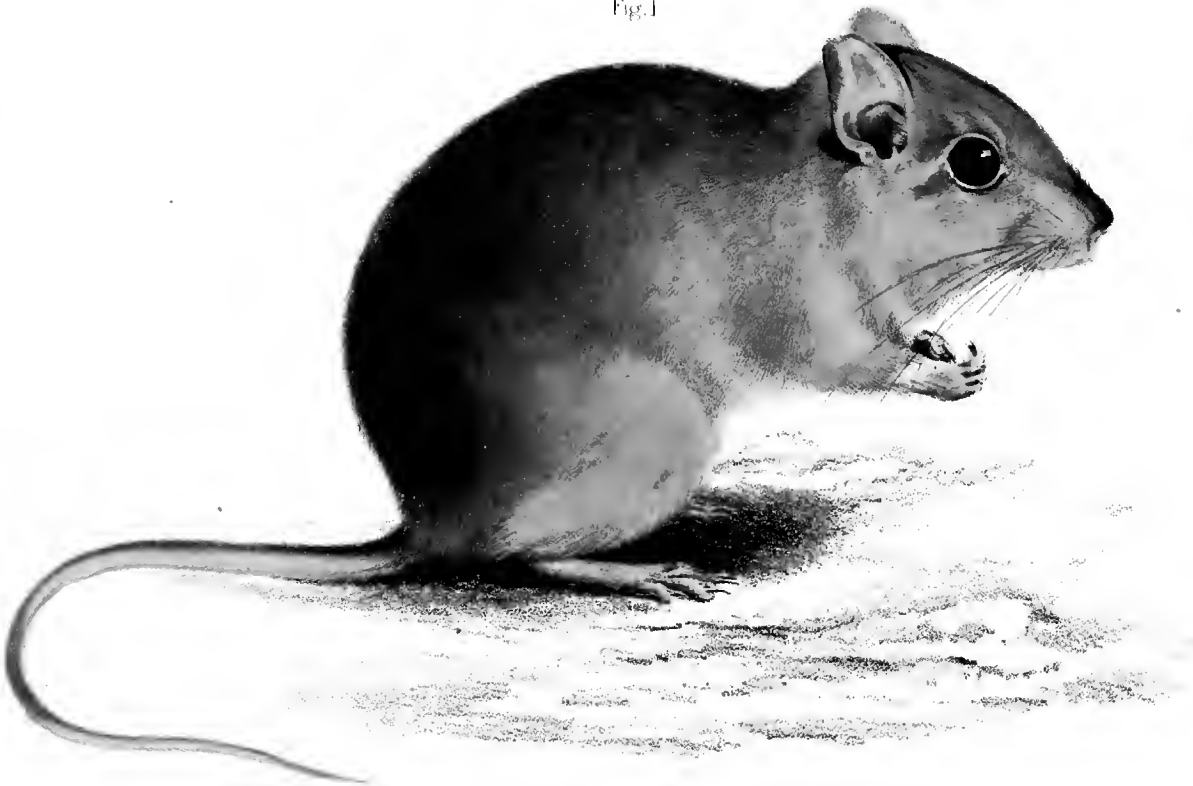
TEETH, &c.—*Incisors* of upper jaw rather slender, protruding about a line and a half beyond the *alveoli*, their points sharp and formed for cutting, the anterior surface of each divided longitudinally by means of a deep and narrow furrow; the *incisors* of the lower jaw about twice the length of those of the upper, moderately strong, and without a furrow. The first *molar* of the upper jaw is composed of three divisions, and the others of two, and each division, as seen in the crown of the teeth, resembles a flattened tube, with its edges in some almost in contact about midway between the outer and inner extremities, in others the distance between the sides is throughout nearly equal or even greater about their middle than at the extremities. The hinder tooth is much smaller than the second, which again is considerably inferior in size to the first. The first and second *molars* of the lower jaw consist of the same number of divisions as those of the upper; the third is entire, and in form is like one of the other divisions. The *ossa nasi* are $7\frac{1}{2}$ lines in length; the distance between the upper incisors and the base of the first *molar* six lines, and the length of a row of *molars* three lines.

Specimens of this animal are to be obtained in abundance at the Cape of Good Hope, and there is no difficulty in procuring them even in the immediate vicinity of Cape Town. It is known among the Colonists by the name of *Nacht-muis*, which appellation it has received from the circumstance that it rarely leaves its burrow excepting in the night, and that all its operations are carried on under the cover of darkness. It is commonly found in open plots of ground, which are clothed with a short grass, and situated in the vicinity of brushwood, and in such situations a number of individuals generally congregate and form their burrows, extending them in different directions so as not to interfere with each other. The courses of the burrows are at first oblique, but after reaching into the soil to about a foot in depth, they commonly run horizontally, and frequently are from three to four yards in length, and it sometimes happens that one intersects or communicates with another in its course. When young are about to be brought forth, a nest of soft grass is formed at the distal extremity of the subterranean passage, and in it they are placed until they are able to run about and provide for themselves. The *nacht-muis* rarely continues for any great length of time in one situation; hence it may be considered as by nature a truly migratory animal. When it leaves one locality to take up its abode in another, it performs the journey during the night, and manages its time so as to be able to form a portion of its new habitation at least, before day-light appears. Specimens are most readily procured by digging in the course of the burrows, but care must be taken to ascertain that they are actually inhabited at the time they are discovered, else much labour may be expended without an individual being captured. The ground immediately adjoining the holes must be closely examined; and if, on such examination, no recent footmarks can be discovered, it may be inferred that they are the abandoned burrows of some family which has taken up its residence elsewhere.

Fig. 2.



Fig. 1



GERBILLUS MONTANUS. Fig 1.
GERBILLUS TENUIS. Fig 2.
Mammalia Plate. 36.

GERBILLUS MONTANUS.—SMITH.

MAMMALIA.—PLATE XXXVI. Fig. 1.

G. capite, dorso, lateribus, extremitatibusque externè versus corpus pallide rufo-flavis, dorso lateribusque brunneo-penicillatis; abdomine extremitatibusque internè albis; capite lato breveque; oculis rubro-brunneis.

Longitudo ab apice nasi ad basin caudæ 6 unc.; caudæ 5 unc.

COLOUR.—The head, the back, the sides, and the outer surface of extremities towards body, intermediate between sienna-yellow and yellowish brown, the back and upper parts of sides freely pencilled with umber-brown, the pencilings so arranged as to produce an appearance as if these parts were marked with small brown blotches; the hairs towards their roots pale blackish purple. Tail the same colour as the body, the upper surface freely pencilled with umber-brown; chin, throat, belly, and inner surface of legs towards body pale cream-yellow or yellowish white. Tarsi towards toes ash-grey; claws pale cream-yellow. Ears, internally, light wood-brown mellowed with a flesh colour; externally, the hair is of a broccoli-brown pencilled with sienna-yellow. Eyes deep reddish brown. Incisor teeth of upper jaw Dutch-orange, of lower jaw white.

FORM, &c.—Figure robust, and less lengthened than that of *Gerbillus Afer*, though in size the two are nearly alike. Head short, bulky posteriorly, and attenuated towards the nose, which is moderately acute. Eyes large; ears moderately long and oval: whiskers rather bushy and wiry towards their origin; fore legs short, hinder legs rather long, toes shorter than in *G. Afer*, and the claws of fore and hinder feet vertically compressed, and more arched. The hair covering the snout and forehead short and rather harsh, that of the other parts of the head, the body, and the extremities, as low as the *tarsi*, moderately long, soft, recumbent, and closely set. Tail tapered and densely covered with short, rigid, recumbent hair.

TEETH, &c.—The *incisors* of the upper jaw are moderately strong and project about two lines beyond the *alveoli*, each having anteriorly a deep longi-

GERBILLUS MONTANUS.

tudinal groove along its centre; those of the lower jaw long, slender, and plain. The *molars* are six in each jaw, three on each side, the front one of upper jaw is largest, and its crown consists of three transverse divisions, each division a sort of tube, the anterior and posterior sides of which are nearly in contact, and only connected with the adjoining division at a point about equidistant between their inner and outer sides; the second and third teeth consist of two divisions constituted in the same manner as the first, the last division of the third tooth being very small and subtriangular. The *molars* of the lower jaw are similarly constructed. Length of the *ossa nasi* 7 lines; distance between *incisors* of upper jaw and base of first *molar* $4\frac{1}{2}$ lines; length of the row of *molars* $2\frac{3}{4}$ lines. For representations of the Teeth, &c., see Plate XXXVII.

This species inhabits the summit of hills in the country to the north of the Orange River towards its sources, and is generally found in situations devoid of shrubs, where the grass is short. Its principal operations are carried on during the night, and under the cover of darkness it seeks its food, forms its burrows, and changes its residence.

The *incisor* teeth of the upper jaw are much larger in this species than in *Gerbillus Afer*, and the distance between the *incisors* and first *molar* is less; hence the muzzle is considerably shorter, and consequently, the head appears more clumsy: there is also a difference as regards the fur; it is more closely set and better adapted to protect against the greater cold to which it is necessarily exposed. The nails of the fore feet also furnish diagnostic characters of the animal, as will be seen by comparing the descriptions of those organs in the two species; the nails of *G. montanus* are vertically more compressed and like those of *G. tenuis*.

GERBILLUS TENUIS.—SMITH.

MAMMALIA.—PLATE XXXVI. Fig. 2.

G. capite, dorso, lateribus, extremitatibusque externè pallide rubro-aurantiis, dorso brunneo-penicillato; partibus inferioribus extremitatibusque internè versus corpus albis; oculis rubro-brunneis.

Longitudo ab apice nasi ad basin caudæ 4 unc.; caudæ $4\frac{1}{2}$ unc.

COLOUR.—The head, the back, the sides, and the outer surface of the extremities a clear pale reddish orange; the back freely pencilled with liver-brown; the hairs towards their root dull lavender-purple; chin, throat, belly, and inner surface of limbs pure white; tarsi pale ochrey white. The line of demarcation between the colours of the sides and belly distinctly defined. Tail the same colour as the back, only lighter, and towards its point many of the hairs are of an umber-brown tint. Ears internally a pale flesh colour, externally, pale yellowish brown. Eyes deep reddish brown. Claws pale wood-brown. Incisor teeth of upper jaw pale Dutch-orange, of lower jaw pale straw-yellow.

FORM, &c.—Figure slender and moderately lengthened; head rather small and anteriorly attenuated; the apex of the nose rather acute. Eyes large; ears moderately long and oval; whiskers very long, and towards their origin, rigid. Hair of the muzzle short and rather strong, that covering the rest of the head, the body, and the extremities, as far as the tarsi, long, soft, silky, and recumbent. The hair disposed along the centre of the back not quite so soft as the rest; hair of tarsi and toes very short and rigid. Tail slender, cylindrical, and tapering, the hair dense, rigid, and very short, except at the point, where it is lengthened and forms a thin tuft. Fore-legs short, hinder legs long; toes moderate; nails pointed, vertically compressed, slightly arched, and those of the fore-feet longest.

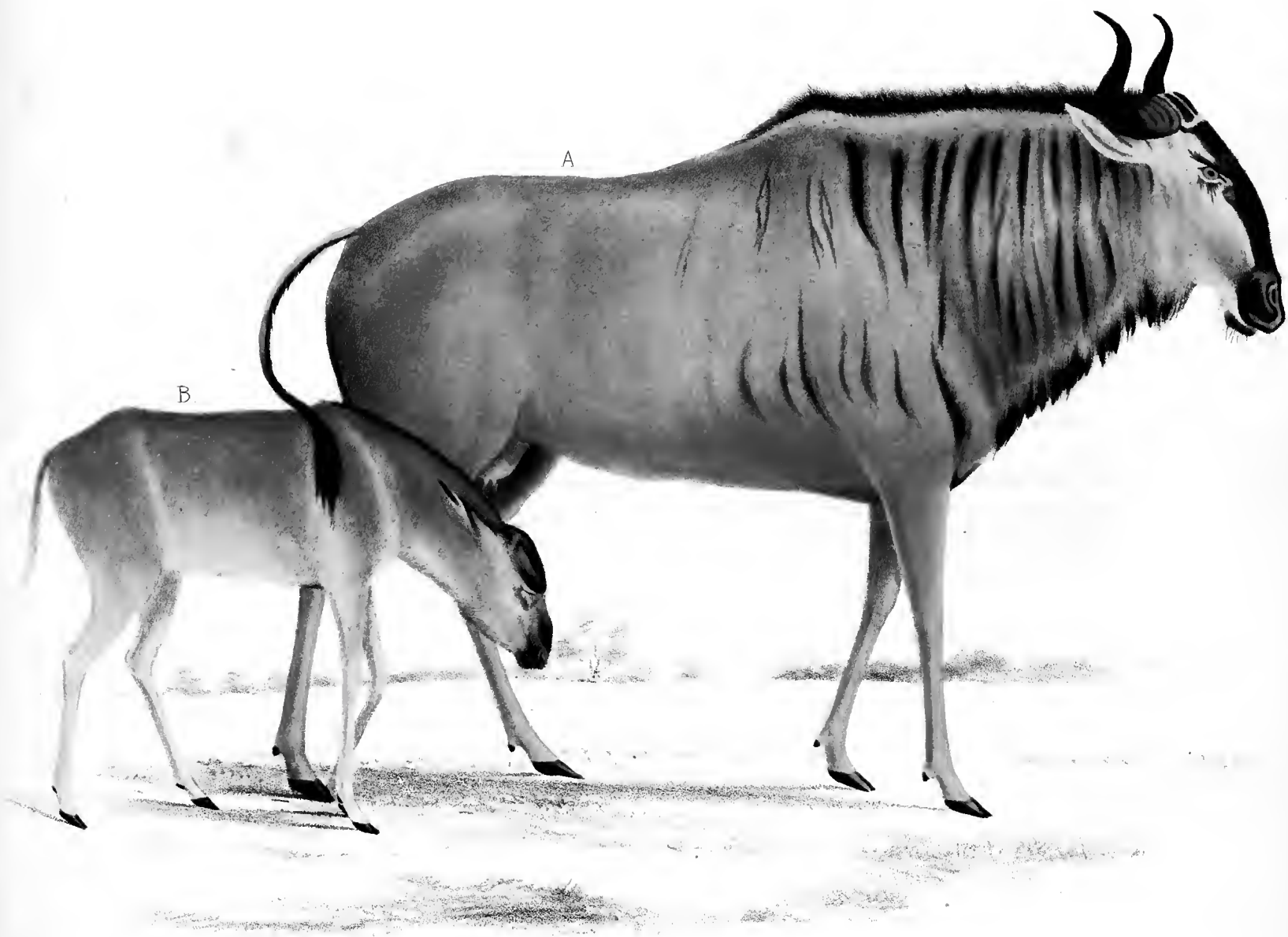
TEETH, &c.—*Incisors* of upper jaw incurved, moderately strong, and with sharp-cutting points: they protrude about a line-and-a-half beyond the *alveoli*, and each, anteriorly along its middle, is marked with a deep longitudinal furrow; the *incisors* of the lower jaw are slender, considerably longer than

GERBILLUS TENUIS.

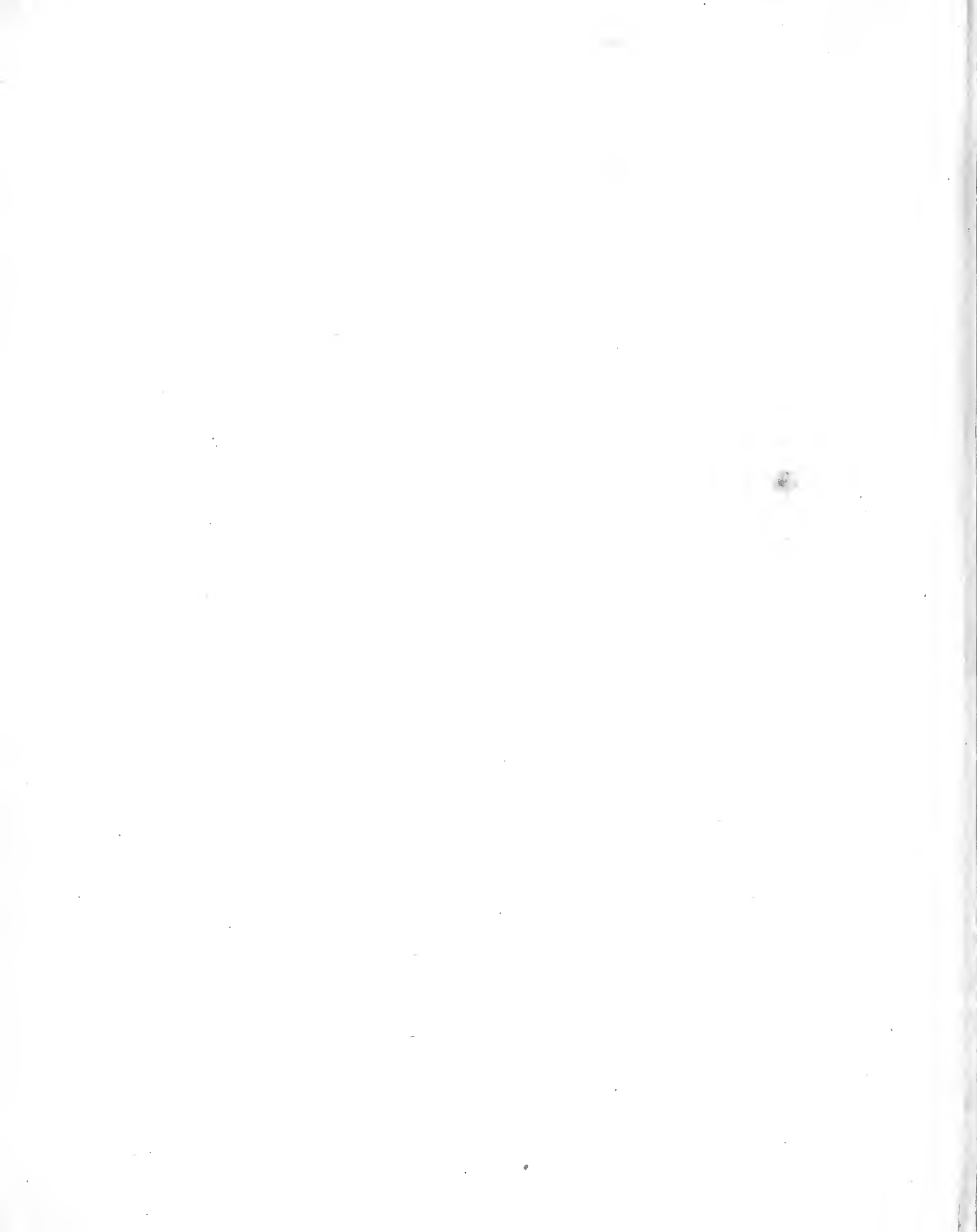
those of the upper, laterally compressed, and sharp at the point. The *molars* of the upper jaw are constructed much like those of the last species, and each consists of the same number of divisions, the second and third divisions of the front tooth differ however a little in configuration, the sides of the tubes being so compressed as to give the surface of the crown of each division more or less of the form of the figure 8. The front *molar* of the lower jaw is triangular anteriorly, and composed of two distinct portions, the anterior of which is again sub-divided into two, so that, when the tooth is viewed laterally, it exhibits an appearance of three divisions; the central concavity of the anterior division, which consists of the two sub-divisions, resembles somewhat the figure of a club, as painted upon playing cards; the cavity of the second division is narrow and nearly of equal width throughout; the second tooth consists of two transverse portions in close approximation to each other, and the third of one with its centre concave. The nasal bones are $5\frac{1}{2}$ lines in length; the distance between the hinder edge of the incisors of the upper jaw and the anterior surface of the first molar, where it is in contact with the alveolar processes, $3\frac{1}{2}$ lines; length of the row of molar teeth $2\frac{1}{4}$ lines. Zygomatic arch anteriorly flat, thin, and moderately broad, posteriorly narrow, slender and very delicate. For representations of the teeth, &c., see Plate XXXVII.

This species was first found after the expedition passed to the northward of Latakoo, and although a number of individuals were seen from time to time, yet only three were captured. It inhabits open localities, similar to those resorted to by the species already described, and, according to the statements of the natives, its habits resemble those of *G. Afer*.

Its size and slender form at once bespeak it as a distinct species, and its anatomical characters lead us to regard it as more allied to *G. Afer* than to any of the other South African species with which we are yet acquainted.



CATOBLEPAS TAURINA . A. Adult Female . B. Young .
(Mammalia — Plate . 38 .)



CATOBLEPAS TAURINA.

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

C. facie, vertice, jubâ, caudâ, medioque pectoris subnigris; cervice corporeque flavo-griseis; cervice, scapulis laterumque partibus anterioribus fasciis verticalibus rufo-brunneis variegatis; artibus flavo-brunneis; naribus externe valvulis instructis externe nudis; corpore anticè robustâ, posticè gracile nitide formatâ; oculis rubri-aurantiis.

LONGITUDO e naso ad basin caudæ 7 ped. 4 unc.; caudæ 21 unc.; altitudo ad humeros 4 ped.

CATOBLEPAS TAURINA ET GORGON, *Hamilton Smith.*

COLOUR.—Face black or blackish brown; space under the eyes rusty white; sides of the head pale dusky brown, grizzled with dirty white; upper lip white, its sides with a rusty tinge; sides of the lower jaw deep black; bristles of the sides of the lower jaw, and those which exist and form a fringe behind each angle of the mouth, deep black. The top of the head, the space between the horns and the long hair which fringes the neck, superiorly and inferiorly deep black. Sides of the neck yellowish grey, lightest towards the black mane, and freely variegated with vertical dark stripes, consisting of two colours, the one colour greyish brown, and divided by a central stripe of blackish brown. Shoulders, back, upper portions of side and haunches, a glossy colour, intermediate between brownish purple-red and yellowish grey; the shoulders and anterior portions of the side variegated like the neck, but more sparingly, with vertical stripes of a light blackish brown colour; the centre of the breast between the fore legs, a glossy reddish brown. The outside of the upper half of each fore leg rusty yellowish brown, the inside light grey-brown; the lower half light reddish brown. The anterior edges of thighs below groins rusty white, the remainder of the hinder legs rusty yellowish brown. The central portion of the upper or hinder part of the tail dirty yellowish brown, the other parts deep black. Ears externally the colour of the body, internally white, tinged with yellowish grey. Eyebrows blackish brown, the hinder portion of each surmounted by a spot of yellowish brown; valves covering nostrils black. Eyes light reddish orange; eyelashes blackish brown.

The colours above described are those most generally observed in this species, nevertheless various modifications of them are occasionally to be noticed; in some the ground colour is almost a sort of drab-grey, with a strong lustre: the number of vertical stripes also vary in different individuals; in some they are more numerous than in the specimen figured, in others less.

FORM, &c.—The form of the head, neck, and anterior parts of the body,

CATOBLEPAS TAURINA.

robust and clumsy; of the posterior parts and limbs, delicate and elegant. The head is shaped somewhat like that of an ox; the face is moderately wide, and with a distinct lateral bulge on each side, a short way behind the nostrils; facial line slightly arched; sides of the head flat; eyes rather large; eyelashes strong and rigid, as are also the tufts of bristles which are over the eyebrows; the hairs of the beard are also strong and rigid: about two inches below the anterior corner of each eye there is a circular bare spot, about an inch in diameter, through pores in which a tenaceous glary fluid exudes. Nostrils wide, and superiorly furnished with a sort of valve, lined internally with short hair, and which at the will of the animal can be so depressed as to shut completely the openings of the nostrils; this valve is bare externally, and is the only part of the nose which is denuded of hair. Ears ovate, elongated, narrow, and pointed, and the upper or anterior edge of each is fringed with long hair. The horns are placed above, and considerably behind the plane of the eyes, and at their origin, which is on the summit of the forehead, they are close together. From their origin they descend downwards and outwards, then with a curve upwards and backwards; towards the base they are flattened or compressed, towards apex cylindrical, and their surface generally is rough and irregular. The neck superiorly and inferiorly is fringed with long, closely set, rigid hair; above the fringe or mane commences at the hindhead, and ends on the back a little behind the hunch; on the throat it commences under the angle of the lower jaw, and ends a little in front of the breast. Shoulders very deep, and surmounted by a moderately high pointed hunch. Body rounded, and shaped like that of a horse; limbs delicately formed, and like those of an antelope. Tail long, reaching to about midway between the houghs and pastern joints, its tip furnished with a brush about twelve inches in length; the hair elsewhere short, that on the sides rather longest. Hoofs rather broad, large for the limbs, and anteriorly where they come in contact at their base, there is a tuft of long hair; false hoofs long, convex externally, concave internally, and fringed at base with long hairs. The skin of the knee joints in front generally bare, callous, and rough.

DIMENSIONS.

	Feet.	Inches.		Feet.	Inches.
Length from the nose to the base of			Height at the shoulder	4	0
the tail	7	4	at the crupper	3	10
of the tail	1	9	Distance between the eye and nose	1	0 $\frac{3}{4}$
of the horns	1	9 $\frac{1}{2}$	Length of the ears	0	7
Distance apart at base	0	2 $\frac{1}{2}$			
at apex	1	6 $\frac{1}{2}$			

CATOBLEPAS TAURINA.

MALE.—The neck is broader, and the animal generally is stronger made; the colours are nearly the same as those of the *female*, only deeper and of a brighter hue. The horns are stronger, and the mane and hair under the throat is more bushy.

YOUNG.—Form and appearance clumsy and unseemly. Forehead and face intermediate between umber and reddish brown, the lower parts of the latter darkest: the upper parts of the neck and body light yellowish brown washed with grey: the lower portions of the neck and sides, the legs, and the tail, intermediate between ash-grey and yellowish grey. Hoofs brownish black. Ears externally and internally towards tips blackish brown.

This animal and the common Gnu, (*Catoblepas Gnu*,) are perhaps the two most interesting and extraordinary quadrupeds which occur in South Africa. Their configuration and their manners equally excite our wonder, and let our attention be directed to these unitedly or individually, the curious compound is not but to be perceived. When we survey their form either while roving at large in their native haunts, or when prostrate at our feet through the efforts of the hunter, we feel alike with the native population the difficulty of discovering whether they partake most of the ox, the horse, or the antelope.

When either the one or other of those animals, especially under excitement, stands in front of an observer, with the head and anterior parts of the body only distinctly visible, the idea of its strong resemblance to a small ox immediately arises. When again its body and posterior parts are the portions most conspicuously in view, the likeness to a horse is remarkable; or when its limbs only are taken in review, it presents a strong similarity to the more typical antelopes.

As in their form, so likewise in their manners and habits, they manifest considerable resemblance to several very different animals; but the ox is the one to which in these respects they approximate most closely, at least as far as my observations go. A herd of either of the species evinces in its proceedings much of the manner which is observed among a group of wild cattle, and no one who has noticed with but common attention the practices of the latter under various circumstances, will find himself disinclined at times to suppose that he is while looking on a herd of Gnus surveying a herd of wild oxen of a diminutive size. In their mode of carrying themselves when alarmed, or when their attention is otherwise excited, the resemblance is palpable, and in the toss of the head, the plunge, and the kick, which precede a forced flight, it is not less so. The propensity of cattle to threaten with an attack, as shown by certain fantastic motions of the head and body, is also regularly betrayed by this and the other species; and the inclination of wild cattle to survey any thing or any one who approaches their retreat, even should they have to fly immediately, is also the preponderating tendency in both the species of *Catoblepas*. Almost every species of animal which occurs in South Africa, excepting the *Buffalo* and the *Gnu*, retires at once, when even the cause for alarm is but trifling, prolonging their flight until, in their own opinion, they are out of danger; and although all do not progress uninterruptedly, yet few if any halt longer at a time than is simply necessary to enable them to survey for an instant the position of the object which had alarmed them.

CATOBLEPAS TAURINA.

The *Gnus* and the *Buffalo*, on the other hand, rarely fly immediately on their discovering noises or appearances which excite their surprise or apprehension; and although they manifestly experience feelings which incline them to escape danger by a retreat, yet they appear so strongly influenced by a desire to acquire some insight into the nature of the danger, that they rarely depart without first making strenuous efforts to gain their point. That sort of curiosity often leads both, but particularly the *Gnus*, to expose themselves to danger greater than that from which they might readily escape in the first instance, by its inclining or propelling them to approach the objects of their fears ere they fly, apparently for the purpose of ascertaining their real nature and character. From this peculiarity in their disposition we often see a herd whose curiosity may have been roused by wagons and hunters passing in the vicinity of spots, over which its members may be browsing, scamper towards them, and even approach within musket shot of them before they halt to carry out their purpose. The discharge of guns often proves, during these advances, the cause of their halting, and it is rarely that they will take a hint, as is done by most other animals, from the reception they experience, and turn and fly. Frequently the only result which follows the discharge of muskets is a momentary halt, a gaze, a confused rush in no given direction, and then a determined attempt to persevere in the direction they had been pursuing, even though such should carry them nearer to the position of their assailants. In proportion as the degree of danger increases, in the same proportion does also their disposition to persevere and manifest fantastic movements and plunges increase; and every shot which is fired at individuals under such circumstances only calls forth further extraordinary gestures, tosses of the head, or wild kicks of the hinder extremities, just such as are practised by wild cattle similarly situated.

Their gait as they fly bears a strong resemblance to the gallop of a horse, and in their manner of arranging themselves during their flight, one upon the heels of another, they strongly resemble many of the larger antelopes.

Both species of *Gnu* inhabit, during a certain period of the year, the extensive grassy plains which exist some considerable distance to the northwards of the *Vaal* River; and at another period a portion of each, at least, advances to the southward to feed upon the vegetation which occurs in that direction after the fall of the summer rains. Both species advance simultaneously as far as the southern branches of the Orange River, but on reaching those, the species here figured ceases to advance, and the common species (*Catoblepas Gnu*) passes by itself into the Colony. The appearance of the latter is the signal to hunters of all denominations to prepare for the chase, and though the yearly slaughter is very great, there is apparently no reluctance in the survivors to renew their periodical visitations. From having for a period of years attentively observed the proceedings of animals which migrate, I am much disposed to believe that among them at least two different impulses operate: the one, the result of the will of the animal; the other independent of that will, and purely an uncontrollable instinct, which forces them blindly to follow their inclination even when the doing so necessarily leads to their destruction. Among the animals of the first description, I would rank the *Elephant*, *Hippopotamus*, and *Rhinoceros*; among the latter the *Gnu*—the *Spring Bok* (*Antelope euchore*) the *Gems Bok* (*Oryx Capensis*,) &c. The facts which have led me to form these opinions, I shall detail at length hereafter; and although I do not feel that they are sufficient, either in number or strength, to establish the point, yet they are sufficient to justify me in surmising such to be probably the law of nature.



GRAPHIURUS CAPENSIS.
(Mammalia—Plate 39.)

GRAPHIURUS CAPENSIS.—F. CUV. ET GEOFF.

MAMMALIA.—PLATE XXXIX.

G. supra cinereus nigro-brunneo penicillatus; fascie, infra oculos, maculâ supra aurium, genis, ventre, lateribusque corporis albis; caudâ supra flavo-albâ, infra brunneo-rubrà; fasciâ semicirculare inter labrum superiorum et partem inferiorem auris, supra oculum transiente, nigro-brunnâ; caudâ versus basin subrotundatâ, versus apicem distichâ.

LONGITUDO ab apice nasi ad basin caudæ 4 unc.; caudæ 4 unc. 6 lin.

MYOXUS OCULARIS. *Smith*, Zoological Journal, vol. iv. p. 439.

COLOUR.—The forehead, the upper surface of the head, the upper and lateral parts of the neck, and the back, and the upper parts of the sides ash-grey, profusely pencilled with liver-brown, the pencilled appearance arising from a great number of long and rather rigid liver-brown hairs, being scattered among the soft and light-coloured fur. The upper surface of the tail yellowish white, the lower surface and the edges inferiorly deep reddish brown. A blotch over the upper margin of each ear, the cheeks under the eyes; a vertical bar in front of each shoulder, and the belly and sides pure white; the white of the sides rising highest immediately behind the shoulder and in front of the thigh. A narrow liver-brown stripe on each side of the head, commencing at the edge of the upper lip immediately behind the muzzle, and terminating under the ear, forming in its course a sort of semicircle in order to pass over the eye; lower portion of each shoulder liver-brown. Upper lip, angles of mouth, lower lip, under surface of neck, and the tarsi of the anterior extremities rusty-reddish orange, the tint darkest round the mouth; breast and tarsi of hinder extremities rusty sienna-yellow. Whiskers partly white, partly liver-brown. Eyes blackish. Incisor teeth pale-yellow. The basal or concealed portion of the fur, intermediate between black and lavender-purple:—this colour only seen by deranging the surface.

FORM, &c.—Body moderately robust and the extremities very short; head rather short and broad; face rather flat; cheeks bulging; nose obtuse, the muzzle bare and the nostrils opening downwards. A pencil of long delicate

GRAPHIURUS CAPENSIS.

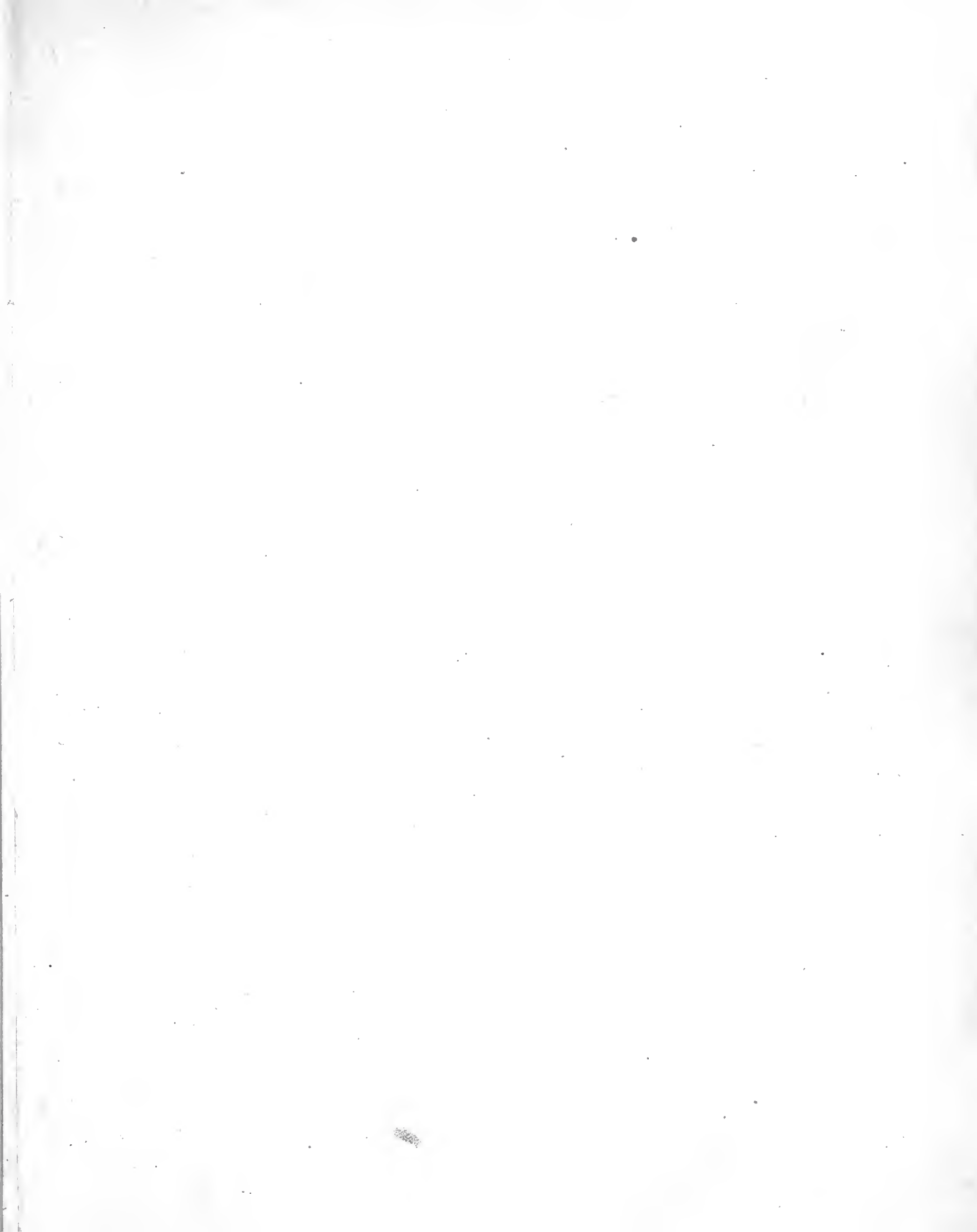
bristles about midway between the muzzle and the eye, and a few others of the same description towards the tip of the nose and also above the eyes. Mouth rather small, the upper lip divided, the furrow extending upwards to the summit of muzzle; eyes small and prominent; ears short, semicircular, and thinly sprinkled with short, rather rigid hairs. Tail bushy, the hair about an inch in length and rather rigid, generally recumbent, but towards the point divergent to the sides. Tarsi and toes short, the latter four in number on the fore-feet and five on the hinder ones; they are all directed forwards, the two middle ones nearly of equal length and longest, the outer one slightly shorter, the innermost considerably the shortest; soles of the feet furnished with four warty callous tubercles, and each toe near its point also with a prominent conical callosity; nails short, weak, slightly curved, and covered by procumbent, rigid hair. Teeth:—incisors of upper jaw short, plain anteriorly and obliquely truncated at the point, the outer edge of each most prominent; incisors of lower jaw long, slightly curved, and flattened, the point of each with a sharp cutting edge.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the front of the muzzle			Length of the hinder legs	1	7
to the tip of tail	8	6	of the tarsus of fore legs and		
of the tail	4	6	toes	0	5
Distance between the muzzle and the			of the tarsus of hind legs and		
eye	0	6	toes	0	10
between the eye and the ear	0	6	Height at the shoulder	1	9
Length of the fore legs	1	1			

The individual described is the only adult specimen I met with in South Africa, and the Hottentot who killed it, stated that it was running to and fro upon the branches of a tree when he first saw it, but that the moment it discovered him it remained motionless. Nothing is known concerning its habits. A young individual I once saw in the possession of a dealer, and from it I drew the characters given in my description of *Myoxus Ocularis*.*

* Zoological Journal, vol. iv. p. 439.





BOSELAPHUS OREAS. (Male.)
(Mammalia—Plate 40)

BOSELAPHUS OREAS.—H. SMITH.

MAMMALIA.—PLATES XL. and XLI.

B. *suprá* rufo-flavus purpureo-tinctus, *infra* flavo-albus rufo-tinctus; fronte pilis longis, rigidis, flavo-brunneis, tectá; facie ante oculos brunneo-rubris; mento albo; caudâ penicillatâ; cornubus fortibus ad basin in spiram convolutis; oculis castaneis.

LONGITUDO e capitis vertice ad basin caudæ 8 ped. 11 unc.; caudæ 2 ped. 6 unc.

ANTILOPE OREAS, *Auct.*

ELAND of the Cape Colonists.

MALE. PLATE XL.

COLOUR.—The sides of the neck, the back, the sides of the body superiorly, and the outer surface of the extremities towards the body rusty sienna-yellow, with a pink or purplish shade shining through it; the sides of the neck thinly pencilled with reddish brown hairs; the lower parts of the sides and the belly pale cream-yellow; sides of head and lower portions of extremities bluish white, strongly tinged with cream-yellow. Forehead clear yellowish brown, all the hairs toward their root brownish red; the middle of the face below a line uniting the eyes brownish red, and fading laterally towards the sides of the head, the centre of the face is darkest, being blackish brown; portion of face and sides of head near to muzzle rusty white, pencilled with brownish red; muzzle black; mane thin brownish yellow, shaded with brownish red, and from the spot where it terminates, behind the shoulders, a narrow reddish brown stripe extends along the course of the back bone as far as the base of the tail. Hoofs brownish black, and each edged superiorly with a ring of brownish red hair, the hair of the fetlock is also of the same colour. Eyes chesnut brown; eyelashes brownish red. Tail towards base the same colour as the back, the tuft at its base rusty yellowish brown, elsewhere brownish red. Mane of dewlap yellowish brown, pencilled with brownish red.

BOSELAPHUS OREAS.

FORM, &c.—Head small, for the size of the animal, rather delicately made, and with a gentle and somewhat ovine expression; neck tapered superiorly rather deep, and bulky towards chest. Body heavy, robust, and rounded; limbs elegantly made, and rather slender; hoofs small, false hoofs subhemispherical. Tail slender, with a bushy tuft of long hair at the point. Forehead rather broad, and covered with a dense coating of long rigid hair, all of which is inclined backwards and towards the centre of the head; the hair covering the lower part of the face and the sides is short and recumbent, that on the under surface of lower jaw longest and very wiry; on the sides of the upper lip, towards the muzzle, some long bristles, others on the under surface of the lower jaw. Eyes moderately large, full, and soft; eyelashes bristly and long. Lachrymal punctum small, circular, and situated a little in front of the inner canthus of the eye, in a narrow longitudinal bare stripe, which extends forwards from the union of the two eyelids. Horns placed on the crown of the head, upwards and backwards from the eyes; they slope slightly backwards and are very thick towards the base, near which each is so twisted as to exhibit two spiral turns, each turn having superimposed an obtuse spiral ridge; the two last thirds of the horns straight, and tapered to a point. Ears long, narrow, pointed, and internally with three longitudinal bands of rather long coarse hair, outer surface covered with short hair. The hair of the neck is abundant, and longer than that on the body; that of the mane is reversed, is longer than that of the neck and shortest towards the hinder part of the shoulders, where it terminates; the hair of the dark dorsal line, and of the back, sides, belly, and legs rather thinly set, short, and directed backwards on the body and downwards on the limbs. The hair of the tail is very short till close to the point, where, in the form of a tuft, it is nearly eight inches long. Dewlap situated near to the breast; subovate, compressed, and edged with a fringe of long rigid hair; muzzle bare.

DIMENSIONS.

	Feet.	Inches.		Feet.	Inches.
Length from the horns to the base of			Height at the shoulder	5	9½
the tail	8	11	at the crupper	5	7
of the head	1	5¼	Length of the fore legs	2	7½
of the ears	0	9	of the hinder legs	3	9
of the horns	2	10	of the tail	2	6
Distance between the eyes and the			of the dewlap at its base . . .	1	8
horns	0	4¼			



BOSELAPHUS OREAS (Female & Young)
(Mammalia — Plate 41.)

BOSELAPHUS OREAS.

FEMALE AND YOUNG. PLATE XLI.

COLOUR.—*Female.*—Forehead cream-yellow, tinted with yellowish brown; rest of head purplish white, tinted with cream-yellow; neck wine-yellow, tinted with hair-brown; back, upper portion of sides, and outer surface of extremities towards body pale sienna-yellow, deadened with pale broccoli-brown; lower parts of sides, belly, and extremities towards hoofs dirty white, slightly tinted with cream-yellow. Hoofs and horns light liver-brown; tuft of tail rusty yellowish brown.

FORM.—Figure elegant, and very delicate as compared with that of the male; limbs slender and finely turned; mane short and reversed; a little long coarse hair on the centre of the forehead. Horns long, straight, and rather slender, somewhat spiral towards and at the base, with a rudimentary ridge on the spire. Dewlap narrow, and nearly the whole length of the under edge of neck; tuft of tail smaller than in the male.

Young.—The prevailing colour in young specimens is a tint intermediate between reddish orange and yellowish brown, which tint only ceases to be the prevailing one when the animal has attained to full maturity. In specimens, apparently full grown, the tint described is often very distinct, particularly in females, and in the latter it continues longer to be the prevailing colour than in the male. In some middle-aged females there are indications of vertical white stripes on the sides, which are distinctly visible on one in the British Museum.

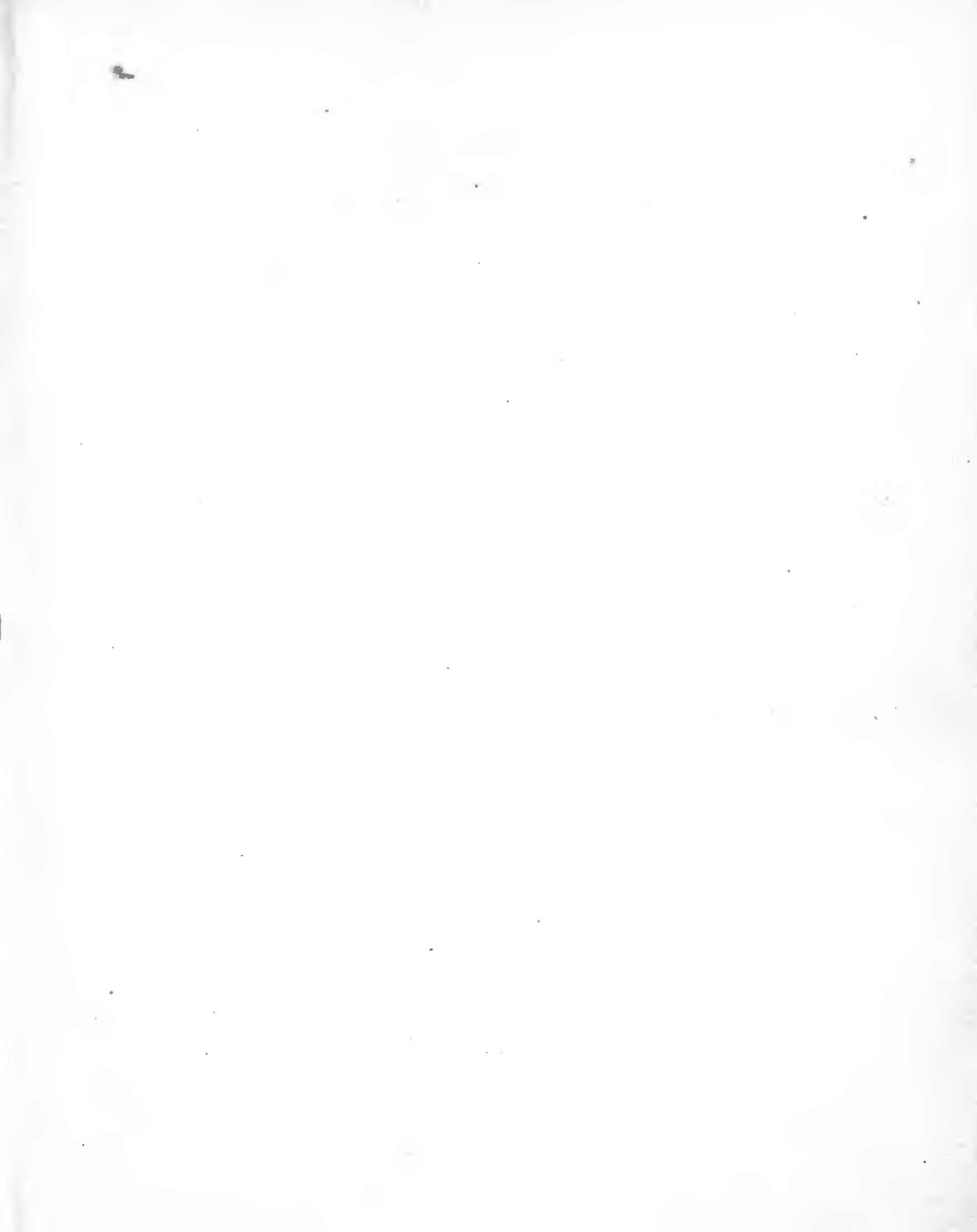
Elands are generally found associated in small herds, each herd commonly of from eight to fourteen individuals, and more than two adult males are seldom met, even in the largest herds. They appear at one time to have ranged over the whole of Southern Africa; but of late few have appeared within the limits of the Colony. In the districts they inhabit they are often observed upon the plains, but more frequently near to mountains or broken hilly tracts, to which they retire upon being disturbed in the open country. They ascend hills, or even mountains, with great ease, and wind their course over peaks of the latter which appear almost impassable. While retiring, they generally arrange themselves in single file, and they only vary from that course when hotly pursued, and when the effort of every one is to effect escape in any way possible.

When young, or but little advanced in years, and not over-fed, Elands are rather fleet than a Cape horse; but when older, and more especially if in good condition, they are so heavy and unwieldy, as to render it no very difficult task to come up with them, provided they have but little advantage in point of start, and be hotly pursued at once. In the event of their not being closely approached soon after they start, they are rarely overtaken, unless the chase be continued with fresh horses, as, when once they have run for a considerable distance, they either improve in speed, or, on the contrary, the horse diminishes in a greater proportion.

BOSELAPHUS OREAS.

When put to flight they invariably, if they can exercise a choice, run against the wind; and from their so constantly adopting that course, there cannot be a doubt that they are conscious of the advantages it affords.

The hide of the Eland, particularly that of the neck, is very thick, and is highly esteemed as soles for shoes; the rest of the hide, on account of its toughness, is much sought after by the farmers, being valuable as traces for horses. Its flesh is highly esteemed as food; and from the animal being on these various accounts so useful, it is much hunted by the *Boers*, which accounts for its being now so rarely met within the boundaries of the Colony.





DAMALIS (Strepsiceros) CAPENSIS.
(Mammalia — Plate 42. Male)

DAMALIS (STREPSICEROS) CAPENSIS.

MAMMALIA.—PLATES XLII. AND XLIII.

D. superne rufo-griseus, inferne albus, corpore postice strigis verticalibus albis notato; lineâ vertibræ albâ et facie, fasciâ angulare ejusdem coloris, signatâ; cornubus spiralibus carinatis; collo sub-jubato.

DAMALIS STREPSICEROS, H. Smith; *Griffith, Translation of the Animal Kingdom of Cuvier*, vol. v.
ANTELOPE STREPSICEROS, *Auct.*, Koodoo of the Cape Colonists.

PLATE XLII.—MALE.

COLOUR.—The upper and lateral parts of the neck and body, together with the extremities, rufous grey, the grey tint most distinct on the neck and shoulders; the breast, under surface of body, and inner sides of buttocks rusty white. The forehead, chaffron, and sides of the head immediately behind the angle of the mouth dirty rufous, the cheeks and sides of the head posteriorly rusty grey;—the colour of the face broken by the intervention of an angular narrow white bar, which extends from one eye to the other, and has its most depending point or angle on the middle of the chaffron; the hair edging it superiorly, as well as that towards the base of the horns, being in general rusty brown. The sides of the head are variegated with several small irregular white spots, one in front of each ear, one under each lower eyelid, and one on each cheek; the eyebrows, the chin, and the lips are also white. The muzzle black. The ears externally rufous grey, internally rusty white; the mane light rusty brown. Between the shoulders and the base of the tail there extends a narrow white line in the course of the vertebral column, and from this line there descends seven or eight vertical lines of the same colour, part of which are situated on the sides of the body, and part on the outer aspect of the buttock. Tail posteriorly brown, anteriorly white,—the tuft forming its point dark reddish-brown. Eyes brownish red. Horns light brown with a faint greenish tinge; posterior aspect of fetlock joint reddish-brown. True and false hoofs brownish black, and the base of the latter narrowly edged with hair of a reddish-brown colour.

DAMALIS (STREPSICEROS) CAPENSIS.

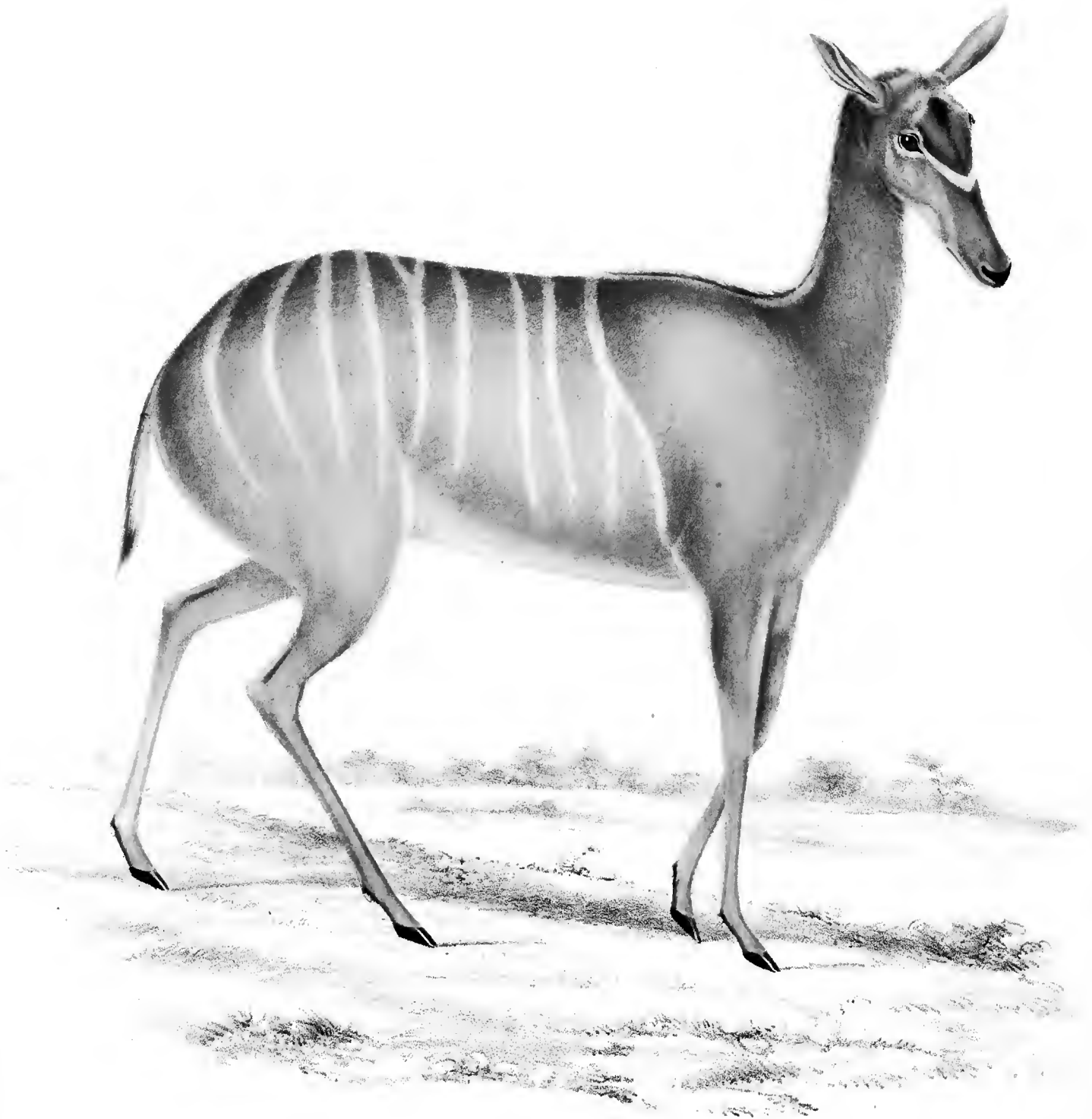
FORMS, &c.—Figure moderately robust and elegant. Head superiorly broad and rather bulky, toward the muzzle narrow and tapered; the forehead is flat and square, the chaffron straight and the muzzle moderately broad. Eyes full, soft and expressive. Horns robust and situated on the top of the head, almost in contact at their base, but wide apart at their points, and each, as it diverges from its base, takes two spiral turns and is furnished with a narrow ridge or keel which follows the course of the wreaths described. At the base the horns are robust and rather rugous, then somewhat compressed,—the points are cylindrical sharp and directed outwards and forwards. Ears large and patulous, especially towards their middle, they stand obliquely outwards and are acute at the point. The neck is robust, rather long, fringed both above and below, with some long and coarse hair which superiorly forms a sort of mane, about three and a-half inches high, and which extends from the base of the horns to the hinder edge of the shoulders; inferiorly the long hair is irregularly disposed and forms a thin shaggy coating to the throat. Body rounded, the shoulders well developed, and about equal in height with the crupper. Limbs elegantly formed and towards the hoofs very slender. Tail slender and at its termination has a tuft of long coarse hair, which reaches to within a few inches of the houghs. Hoofs narrow and anteriorly rather pointed; false hoofs, short, cylindrical and pointed. Hair generally very short; muzzle bare; dewlap slightly developed.

DIMENSIONS.

	Feet.	Inches.		Feet.	Inches.
Length from the horns to the base of			Height at the shoulder.....	4	0
the tail	7	0	at the crupper	4	0
of the head	1	6	Distance between the horns at points	2	7
of the ears	0	8	Length of the tail	1	7
of the horns.....	3	0			

PLATE XLIII.—FEMALE.

COLOUR.—Rather paler than that of the Male, the number of vertical stripes generally greater, some of them occasionally bifurcate, and the white is less pure,—the upper part of the forehead between the ears is generally mottled rusty brown and white.



DAMALIS (Strepsiceros) CAPENSIS.
(Mammalia, Plate 43. Female.)

DAMALIS (STREPSICEROS) CAPENSIS.

FORM, &c.—Figure rather more delicate than that of the Male, and its head superiorly narrower. No horns; neck long and slender; tuft of tail less bushy. Length from the horns to the base of the tail five feet five inches, height at the shoulder three feet eight inches.

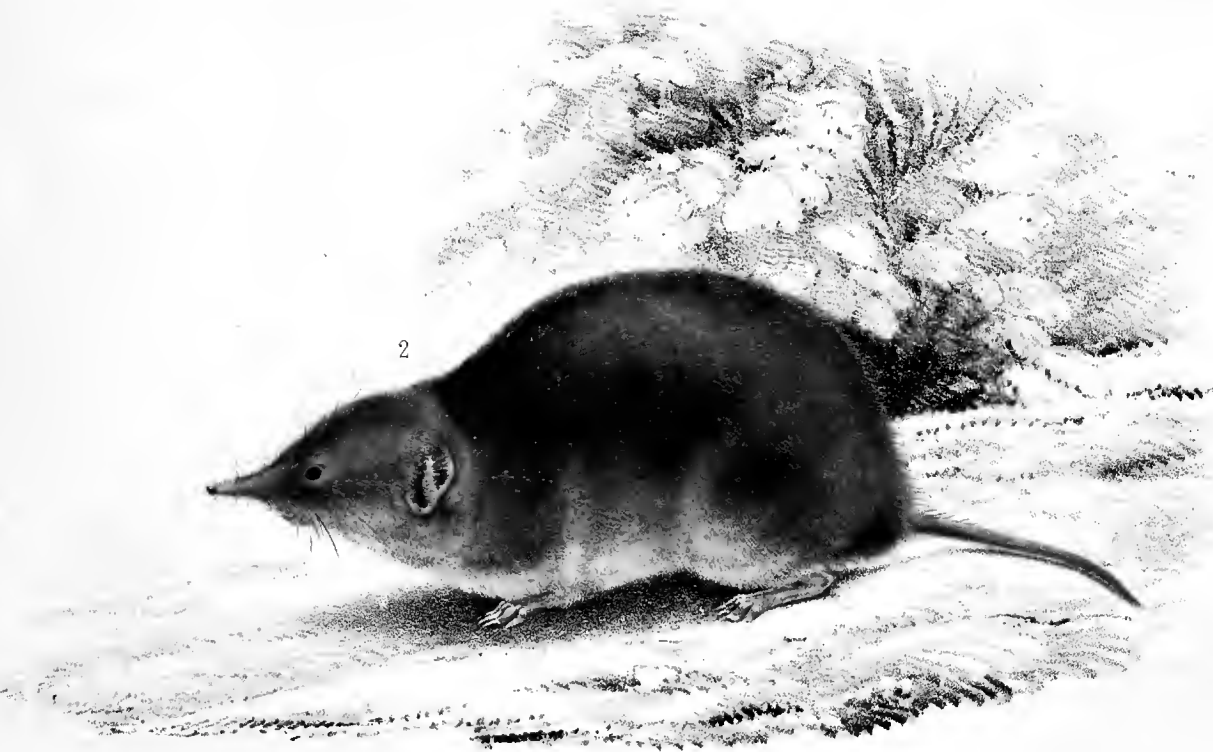
The *Koodoo*, like the *Eland*, is generally found associating in small herds of from four to eight or ten individuals. Its favourite resorts are the slopes of low hills and the banks of rivers, which are thinly sprinkled with brushwood or trees, and in districts in which it exists it is looked for in those situations. It feeds upon buds, shrubs, and grass.

When the southern parts of Africa were first colonised, *Koodoos* were frequently discovered even in the vicinity of the locality where Cape Town now stands. The efficient weapons of the European hunters, however, soon diminished the number, and now specimens are rarely to be found within the Colony, which extends in an easterly direction about six and in a northerly direction about three hundred miles. Even beyond these limits the animal is at present comparatively rare, partly from colonists hunting it on the ground of the aborigines, and partly from the natives themselves being to some extent supplied with fire arms, and therefore now more able to kill it, which they eagerly do whenever opportunities offer, not more from the importance of its flesh as an article of food than from the value of its skin, arising from its peculiar durability and pliancy as an article of harness for horses, &c.

The *Koodoo* is an animal naturally shy and timid, and on being disturbed in its retreats, immediately takes to flight, and so long as no obstruction to its retreat occurs, it moves briskly and quietly along, but if closely chased so as to feel itself in danger, the male often turns on the pursuer, faces him with determination, and manifests a strong propensity to defend himself and his companions. Its gait is elegant, its pace a moderately swift gallop, and while progressing it often springs over distances with great agility, and its bounds are frequently very expansive. It produces one young one at a birth.







1. SOREX MARIQUENSIS.
2. SOREX VARIUS.
(Mammalia...Plate 44.)

SOREX MARIQUENSIS.—SMITH.

MAMMALIA.—PLATE XLIV. FIG. 1.

S. superne brunneo-ruber; inferne pallidior et griseo-tinctus; villo versus pellem griseo-nigro; caudā cylindracea, ad basin obessa, versus apicem attenuata; auribus semicircularibus, fere nudis; villo rigido.

LONGITUDO c rostri apicē ad basin caudæ 3 unc. 4 lin.; caudæ 1 unc. 10 lin.

COLOUR. The surface colour of the head, back, sides, extremities, and tail brownish red, the head and tail lightest; the throat, breast, and belly the same colour, only lighter and with a distinct tint of pearly grey. Colour of under surface light greyish black. The thin sprinkling of fur which occurs on the anterior surface of ears the same colour as that of the back. Whiskers greyish black. Incisor teeth white; naked extremity of snout purplish black; claws brownish red.

FORM, &c.—Figure slender, and tapered both anteriorly and posteriorly. Head small and terminated by a short slender somewhat cylindrical snout which anteriorly is slightly bifurcate, and with a small cylindrical nostril in each division. Eyes small, and rather nearer to the ears than the apex of snout. Ears moderately large, semicircular, and their anterior surface sprinkled with only a fine short hair, the *meatus auditorius externus* covered by the recumbent fur of the parts in front of it, and also by that which edges the lower lobe of the ear. Tail cylindrical, thick at its base and tapered towards the point, the latter with a delicate pencil of rigid hairs. Extremities short and slender; toes of fore feet short, the three middle ones nearly equal and rather longest; those of hinder feet longer, particularly the middle ones.

DIMENSIONS.

	In.	Lines.		In.	Lines.
Length from tip of nose to base of tail	3	4		Distance between the tip of the nose and the eye	0 5
Length of the tail	1	10		Height when standing	1 3

The only specimens of this species I have seen, two in number, were obtained in a wooded ravine near the tropic of Capricorn, and when discovered they sought concealment under some decayed leaves which were accumulated under a small shrub.

SOREX VARIUS.—SMUTS.

MAMMALIA.—PLATE XLIV. FIG. 2.

S. superne griseus rufo-tinctus; inferne griscus, pallide rufo-tinctus; rostro ad basin valido, versus apicem attenuato; auribus fere in villo abditis; caudâ cylindracea fere æquale, crinibus rigidis tecta; villo mollissimo et subcrispo.

LONGITUDO e rostri apice ad basin caudæ 3 unc. 10 lin.; caudæ 1 unc. 10 lin.

SOREX VARIUS, Smuts. Diss. Zool. enumer Mamm. Cap. p. 108, Leyden, 1832.

COLOUR.—The outer surface of the head, back, and sides finely pencilled yellowish brown and pearl grey, the colours so finely blended as to appear a sort of rusty silvery grey; the lower portion of the sides, the chin, throat, belly, and extremities towards body rusty ash-grey. Lower portions of extremities and tail wood-brown, the latter tinted with yellowish brown. The fur inside of the surface intermediate between lavender-purple and greyish black. Edges of upper lip and under surface of snout dirty white; incisor teeth white. The proportion of yellowish brown varies in different specimens and in those in which it is most abundant the grey tint is but faint.

FORM, &c.—Figure slender. Head small, snout rather robust, its point bare and anteriorly slightly bifurcate, with a small circular nostril in each division with elevated edges. Ears semicircular and almost concealed in fur, a part of which exists on the anterior surface of the ears themselves. Tail cylindrical and with a delicate pencil of rigid hairs at its extremity, elsewhere it is coated with short strong hairs. Extremities slender and short. Claws of fore feet rather long, and only slightly curved. Incisors of upper jaw strongly arched downwards from base, those of lower jaw horizontal till near the point, which is slightly bent upwards and received within the upper jaw. Fur long, soft, and cottony on the body, shorter on the head, and very short on the snout and tail, where it approaches in character to hair. On the head and body it is slightly frizzled.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from point of nose to base of			Distance between the tip of the nose		
tail	3	10	and the eyes.....	0	6½
of tail	1	10	Height when standing.....	1	10

Inhabits the southern and eastern parts of the Cape Colony, and is usually found where brushwood exists in abundance.

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1. SOREX CAPENSIS.
2. SOREX FLAVESCENS.
Mammalia Plate 45.

SOREX CAPENSIS.—GEOFF. ST. HIL.

MAMMALIA.—PLATE XLV. 1.

S. supra cinnereo-brunneus, subtus flavo-cinnereus; rostro antice integro; caudâ brevè cylindraccâ.

LONGITUDO e rostri apice ad basin caudæ 4 unc.; caudæ 1 unc. 5 lin.

SOREX CAPENSIS, Geoff. Annal de Mus. tom xvii., p. 184.

COLOUR.—The upper and lateral parts of the head, the back and upper parts of the sides, the extremities and the tail intermediate between broccoli-brown and chestnut-brown; lower parts of sides, belly, breast, throat, chin, and inner surface of extremities intermediate between ash-grey and yellowish grey; anterior surface of ears the colour of the body, only paler, posterior surface flesh coloured; muzzle brownish red; whiskers partly liver-brown and partly bluish white; claws horn-coloured.

FORM, &c.—Figure slender. Head small, and between the ears broad and arched, in this respect different from *Sorex flavescens*, which is rather contracted. Muzzle moderately robust, the point bare and entire; extremities slender; tail cylindrical and slightly tapered to the point.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines
Length from the tip of the nose to			Distance from the ear to the eye ...	0	5½
the base of the tail	4	0	the eye to the tip of		
of the tail	1	5	the nose	0	5½
Height when standing.....	1	3			

When in Paris some few weeks ago, I was informed by M. Geoffroy St. Hillaire, that he considered the Shrew which had been described as *Sorex Capensis* to be identical with *Sorex Indicus*, and he was of opinion that the individual which formed the type of the species was actually obtained from the Mauritius. The specimen here figured and described, however, was certainly an inhabitant of the Cape of Good Hope, and as it is smaller than either the species which is found in the Mauritius or that which is known under the name *Sorex Indicus*, I have considered it as an example of the *Sorex capensis* of Geoff. It inhabits rocky situations in Southern Africa, and is found most abundantly in the Cape District. It is readily to be distinguished from *Sorex flavescens* by the tip of its muzzle being entire, by its colour, and by its head being shorter and less conical.

SOREX FLAVESCENS.—GEOFF. ST. HIL.

MAMMALIA.—PLATE XLV. 2.

S. supra rufo-flavus, subtus flavo-cinnereus; villo breve rigido; rostro elongato anticè bifido; auribus, magnis, semicircularibus, fere nudis.

LONGITUDO e nasi apice ad basin caudæ 4 unc. 4 lin; caudæ 21 lin.

SOREX FLAVESCENS, Geoff. St. Hil. Mem. des Mus. d'Hist. Nat. tom xv.

COLOUR.—The back and the upper parts of the sides broccoli-brown, distinctly tinted with light yellowish-brown,—the tint of the upper surface of the head darkest; the lower portion of the sides and the under parts, wood-brown; the chin, throat, sides of neck and breast strongly tinged with dull reddish orange; the fur, at its base, slightly inclined to pale bluish black. Tail rusty grey; ears, anteriorly, pale yellowish brown; muzzle black; whiskers partly reddish brown, and partly bluish white; extremities wood-brown, exteriorly and anteriorly faintly tinted with yellowish brown; nails white.

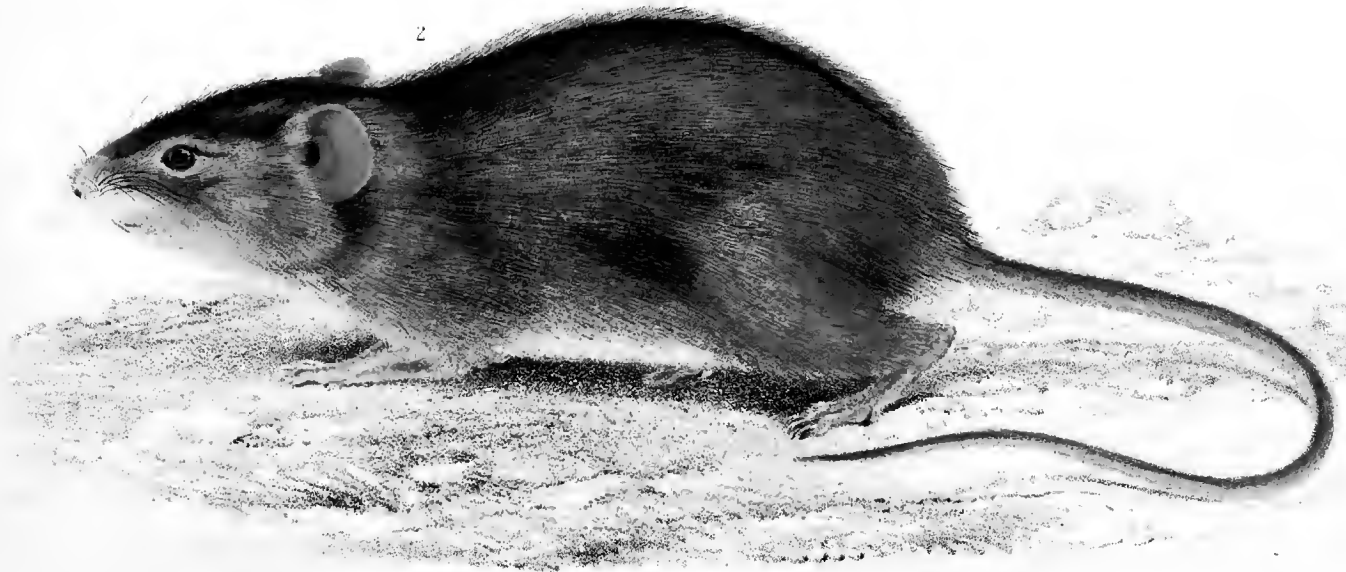
FORM, &c.—Figure moderately robust. Head small, superiorly slightly compressed, anteriorly conical, the muzzle prolonged, cylindrical, and its apex slightly bifid, the two portions, one towards each side, inclined slightly outwards and forwards, as will be seen by reference to fig. b 2. Ears semicircular, with, anteriorly, a sprinkling of fine short fur, and the inferior margin of each, as well as the oblique septem behind the *meatus auditorius externus*, fringed with some rather coarse white hair. Legs short and rather robust; toes strong, rather long, and armed with short, very crooked, and pointed claws. Tail cylindrical, and tapered from its base to its apex. Fur short, rigid, and closely recumbent; hair of tail very short, and rather scanty, the tip of the tail with a rudimentary tuft of short white hairs.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the tip of the nose to			Distance from the ear to the eye.....	0	6
the base of the tail	4	4	the eye to tip of the		
of the tail.....	1	9	nose		7½
Height when standing.....	1	4			

This species, first described by Geoffroy St. Hillaire, is quite distinct from that which was previously recognised by Desmaret* and others as *Sorex Capensis*. Both the one and the other, however, occur in the same localities, and both are occasionally found in rocky situations in different parts of the Cape District. They are also occasionally found in wooded ravines, and when they occur in such situations they are found most frequently under decayed vegetable matter, or else about the roots of shrubs and small trees.

* Encyclopedie Methodique Mammalogie, page 152, No. 241.



1. MUS PUMILIO.
2. MUS DORSALIS.
(Mammalia Plate. 46)

MUS PUMELIO.—SPAR.

MAMMALIA.—PLATE XLVI. FIG. 1.

M. superne griseo-album, castaneo et subnigro parce penicellatum; dorso lineis quatuor longitudinalibus subnigris variegato; capite gracile; pilis recumbentibus; auribus ferrugineis.
 LONGITUDO e nasi apice ad basin caudæ 4 unc.; caudæ 3 unc. 6 lin.

COLOUR, &c.—The ground colour of the upper and lateral parts of the head, of the back, the sides of the body, and the outer surface of the extremities, grayish white, sparingly pencilled with chestnut and liver-brown, and the back besides is variegated with four longitudinal liver-brown stripes, each about a line in width. From the point where the stripes commence, at the anterior part of the back, a single line, alike in width and colour, extends forwards along the back of the neck and down the face till it is lost on the latter between the eyes,—this and the four on the back are distinctly though sparingly pencilled with a bright deep reddish orange. The sides and angles of the mouth, the chin, the throat, the breast, the belly, the inner surface of the extremities towards the body, and their entire circumference towards the toes, rusty white. Ears externally and internally intermediate between chestnut- and orpiment- orange. The upper surface of the tail is liver-brown, the under surface yellowish brown. The incisor teeth of the upper jaw are light reddish orange, those of the lower yellowish white; whiskers and eyes liver-brown. Hair towards the base a slate colour.

FORM, &c.—Figure moderately slender. Head small and narrow, the muzzle prominent, slightly obtuse, and projecting but little beyond the incisor teeth of the upper jaw; ears moderately large and posteriorly semi-circular. Hair rigid, moderately long, and recumbent. Extremities slender, the hinder ones rather long, and the three middle toes of each of equal length. Tail cylindrical, long, and densely covered with short rigid hair.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.	
Length from nose to base of tail.....	4	0		Length of tarsus and toes of hinder ex-		
of tail	3	6		tremities	0	11½
				Height of the animal when standing ...	1	7

This mouse occurs in every part of Southern Africa which has yet been visited and is generally descried in spots more or less densely covered with underwood. In these situations large accumulations of dried leaves, branches, &c., are often to be observed surrounding the stems near to the ground of some of the larger shrubs, and in the interior of these masses *Mus Pumelio* forms its burrows, constructs its dwelling place, and produces and rears its young.

MUS DORSALIS.—SMITH.

MAMMALIA.—PLATE XLVI. FIG. 2.

M. superne pallide rubro-aurantium subnigro-penicellatum; dorso lineâ longitudinale subnigrâ notato; capite postice lato; rostro obtuse et obesso; pilis longis rigidis recumbentibus.

LONGITUDO e nasi apice ad basin caudæ 4 unc.; caudæ 4 unc. 6 lin.

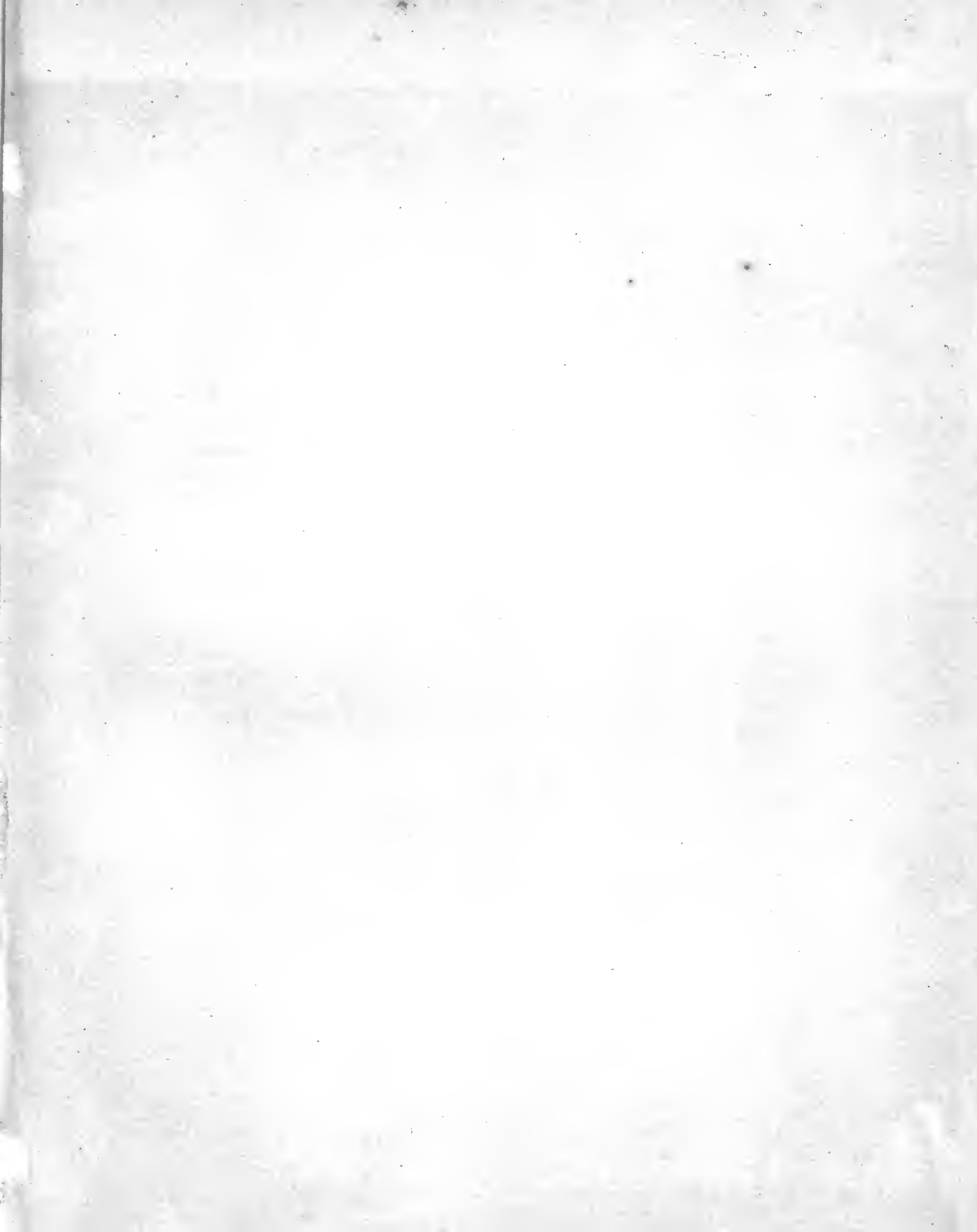
COLOUR, &c.—The surface colour of the upper and lateral parts of the head, the back, the sides, and the outer surface of the extremities, a pale buff or reddish orange, profusely pencilled with liver-brown: the back with a liver-brown stripe, about a line in width, extending between the base of the neck and the root of the tail. Lips, chin, space round angles of mouth, throat, belly, and inner surface of extremities, rusty white; legs towards toes rusty sienna-yellow; muzzle an uniform rusty ochre-yellow; eyebrows reddish orange; ears anteriorly and posteriorly deep reddish orange. Eyes liver-brown. Hair towards the root slate-coloured.

FORM, &c.—Figure rather robust; head, posteriorly, broad; anteriorly, narrow and tapered. Muzzle rather full, compressed, and slightly obtuse. Ears rather large, and posteriorly semicircular. Hinder extremities strong and rather long. Hair of head, back, and sides, long and rigid; of belly short and rather soft; everywhere recumbent; hair of tail short, rigid, and closely set.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.	
Length from tip of nose to base of tail.	4	0		Length of tarsus, toes, and claws of		
of tail	4	6		hinder extremities	1	2
				Height of animal when standing	1	10

This little mouse occurs only sparingly within the limits of the colony, but abundantly beyond the Northern Frontier to the north of the Great Orange River. The width of its head posteriorly, and the bulk of the muzzle furnish characters which enable us readily to distinguish it from *Mus Pumilio*, even without taking into account the greater length and rigidity of its hair, and the existence only of one dark stripe along the back.



3



2



1



MUS LEHOCLA. Fig. 1.
MUS NATALENSIS. Fig. 2.
MUS COLONUS. Fig. 3.
(Mammalia. Plate 47.)

MUS LEHOCLA.—SMITH.

MAMMALIA.—PLATE XLVII. FIG. 1. MALE.

M. superne, pallide rufus subnigro penicillatus, inferne rufo-albus; auribus magnis, expansis, fere nudis, margine externo semicirculari; pilis rigidis; caudâ longâ subnudâque.

LONGITUDO capitis corporisque 4 unc. 9 lin.; caudæ 5 unc.

MUS LEHOCLA. Report of Expedition into Interior of South Africa, App. p. 43, 1837.

COLOUR.—Head, back, and sides, pale buff orange, or light sienna-yellow. The middle of the head, of the back, and the upper parts of the sides freely pencilled with liver-brown; the outsides of the extremities the same colour as the sides, the dark hairs only less abundant. The lower parts of the sides, the belly, the throat, the chin, and the inner sides of the extremities rusty white; ears pale purplish brown, with a scanty sprinkling of liver-brown hair; eyebrows white; whiskers pale brownish red; tail intermediate between light brownish red and yellowish brown; eyes black; incisor teeth of both jaws pale yellow.

FORM, &c.—Head rather long, posteriorly of moderate width, anteriorly narrow and tapered; apex of nose subacute and immediately behind the point the parts bulge considerably, having in this respect more of the character of a rat than of a mouse. Ears short, broad, and patulous, the outer edge subovate or semicircular. Eyes large and prominent. Whiskers moderately bushy, hairs rather long and somewhat rigid. Body moderately robust; limbs rather long; toes and nails of fore feet rather short, nails of hinder feet long and curved; tail long and thinly coated with short rigid hair; hair of the head and body long, closely set, and slightly rigid, resembling in its nature that of a rat; incisors of upper jaw short, slightly curved, and moderately robust; of lower jaw long, slightly arched and slender.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.	
Length from tip of nose to base of tail	4	9		Length of tarsus, toes, and claws of		
of tail	5	0		hinder extremities	0	10
				Height of animal when standing.....	2	0

MUS LEHOCLA.

Female.—The colours, &c. not known.

Inhabits the districts around Latakoo, and is found in localities more or less densely covered with brushwood. It forms burrows in the soil, near to the roots of shrubs, and is also occasionally observed in masses of decayed vegetable matter, which occur here and there in situations abounding with underwood.

MUS NATALENSIS.—SMITH.

MAMMALIA.—PLATE XLVII. Fig. 2. MALE.

M. superne flavo-brunneus nigro brunneo-penicillatus; infra rufo-albus; auribus ovatis subnudis; caudâ parce pilis brevibus rigidis sparsâ.

LONGITUDO capitis corporisque 5 unc. ; caudæ 4 unc.

MUS NATALENSIS, Smith, South African Quarterly Journal.

COLOUR.—Ground colour dull yellowish brown, profusely pencilled with deep umber-brown, the points of many of the hairs and the entire of others being of that colour ; the lower parts of the sides and the outer surface of the extremities pale yellowish brown, very faintly pencilled with brown ; chin, belly, and inner surface of extremities rufous white ; tarsi dull white ; fur towards base slate coloured ; skin of tail, as seen under the hair, light brownish red, the hair umber-brown. Ears brownish purple red, tinted with flesh-red, hair on their inner surface tawny, on their outer surface umber-brown ; whiskers partly liver-brown, partly reddish brown. Eyes black ; incisors of upper jaw deep orange, of lower light straw-yellow.

FORM, &c.—Body moderately robust ; head rather long, nose pointed, the head posteriorly moderately broad. Ears long and oval. Eyes large ; legs short, nails blunt and considerably curved. Fur on body short, soft, and copious ; on head and tail rather stiff ; on the latter, on which it is only thinly scattered, short and rigid ; apex of tail slightly tufted.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.	
Length from the nose to the base of the			} Length of the fore legs	0	9	
tail	5	0		} Height when standing	1	9
of the tail	4	0				

The colours, &c , of the female are not known.

Inhabits the woody districts around Port Natal, and is said to enter frequently the huts of the natives.

MUS COLONUS.—LICHT.

MAMMALIA.—PLATE XLVII. Fig. 3.

M. superne flavo-brunneus nigro brunneo-penicillatus, infra griseo-albus; mento-guttureque albis; caudâ superne brunneâ infra albâ; auribus ovatis, singulorum apice semicirculari.

LONGITUDO capitis corporisque 3 unc. 6 lin.; caudæ 2 unc. 6 lin.

MUS COLONUS, Smith, South African Quarterly Journal.

COLOUR.—The ground colour of the upper parts of the head, the neck, and all the back, pale yellowish brown, pencilled profusely with liver-brown; the sides of the head, neck, body, and the outer surface of the extremities towards the body wood-brown, the two last sparingly pencilled with brown; belly, insides of extremities and *tarsi*, pale rufous white; chin and throat white. Hair on outer surface of ears rufous, on inner surface brownish red; whiskers variegated liver-brown and yellowish brown. Eyes black. Incisor teeth of upper jaw Dutch-orange, of lower pale straw-yellow. Tail, above unbr-brown, beneath dirty white.

FORM, &c.—Figure rather robust; head posteriorly moderately broad, anteriorly pointed. Ears oval, the apex of each nearly semicircular, the external and internal surfaces coated thinly with short and rigid hair. Legs short, nails short, strong, curved and blunt. The fur or hair of the back and head short and rather stiff, of the sides and under parts soft and downy. Tail covered with short rigid hair. Eyes large and prominent.

DIMENSIONS.

	Inches.	Lines.		Inches.	Lines.
Length from the nose to the base of the			Length of the fore legs	0	7
tail	3	6	Height when standing	1	3
of the tail	2	6			

The colours of the male and female are nearly alike.

Inhabits the eastern districts of the Cape Colony, and is found in localities coated with brushwood. It either resides in burrows under ground or in masses of decayed vegetable matter, which occur commonly in the situations it inhabits.



PTEROPUS I.EACHII
(Mammalia Plate 48)

PTEROPUS LEACHII.—SMITH.

MAMMALIA.—PLATE XLVIII.

P. capite superne, dorso, brachio, antibrachioque plene pilis brunneis sordidis vestitis; alarum membranâ pone brachium lanosâ; gutture, abdomine, extremitatibusque inferne brunneis, viridi-griseo-tinctis; caudæ dimidio posteriori libero; oculi cantho anteriori oris anguloque in linea eadem verticali.

Pteropus Leachii, Smith. Zoolog. Journal, vol. iv. page 433, 1829.

Temminck, Monog. de Mammalogie, onzième, page 88, 1835.

COLOUR.—The upper surface of the head and neck, the back and the extremities superiorly dull umber-brown; the sides of the head and neck, the throat, breast, belly, and under surface of extremities a colour intermediate between hair-brown and clove-brown (a sort of dirty greenish-brown); nostrils and point of lower jaw liver-brown. Toes of the hinder extremities brownish red; claws sienna-yellow. Wing and interfemoral membranes between brownish red and chocolate-red; the phalanges of the anterior extremities yellowish brown. In some specimens, the fur of the upper parts is tinted in places with yellowish brown, and below, especially on the breast and belly, it is occasionally observed of a slight rusty yellow tinge.

FORM, &c.—Figure rather robust; head large; forehead prominent; face rather flattened; nostrils tubular, and opening laterally; eyes moderately large, situated nearly midway between the nostrils and the ears, the anterior canthus of eye directly over the angle of the mouth. Ears moderately long, rather narrow, and slightly rounded at the point, externally and internally without covering, a few hairs only on inner surface towards meatus. Incisor teeth small, in pairs; molars, six in the upper jaw and seven in the lower. *Vide* plate—*a*, teeth of upper jaw, *b*, teeth of lower—both as seen from above. Fur generally very short, soft, and silky, that of the sides of the neck, throat, and anterior edge of the breast much the longest, that on the alar membrane, adjoining the flanks and anterior extremities, the shortest, and very thinly set: on other parts where it occurs, it is dense and thickly set. The two first joints of the anterior extremities thickly covered below and above with fur, the portion of hinder extremities near to body covered but not so thickly, the more distal portion with only a sprinkling of coarse

PTEROPUS LEACHII.

hair. Thumb armed with a strong claw, the small claw of first finger directly in front of the distal end of the first phalanx of second finger. Wing membranes thin, and posterior to fore-arm veined from before backwards; towards body two of the veins are larger than the rest; one begins near to *axilla*, and terminates before it reaches the hinder edge of the wing, its course obliquely outwards and backwards; the other commences a little in front of base of hinder leg, and extends outwards and backwards to within about three lines of the margin of the wing. The interfemoral membrane edges the coccyx and inner side of the hinder extremities as far as the tarsus; it is deeply emarginate—the emargination of the figure of the letter V reversed. At the tarsus it is about half an inch in width, and the latter increases a little as the angle it forms with the portion of the opposite side is neared. Tail rather more than half an inch in length, the last half free and projecting beyond the interfemoral membrane. Toes rather strong, all of equal length, and armed with strong curved claws.

DIMENSIONS.

	In. Lines.			In. Lines.	
Length from nose to base of tail.....	5	3	Length of thumb, including claw	0	9
Length of head	1	9	1st joint of forefinger	1	5½
antibrachium	3	2	1st joint of second finger ...	2	1
tail	0	8	1st joint of third finger	2	0
Expanse of wings.....	18	0	1st joint of fourth finger ...	1	11
Distance between thorax and thumb					
when wings are extended	4	0			

FEMALE.—As regards colours, the two sexes are nearly alike.

During the season when the grapes are ripening and ripe, specimens of this Bat are easily obtained in Cape Town and its vicinity; at other periods they are less readily procured. Though it is not restricted to Cape Town and its neighbourhood, it occurs nowhere else in the same abundance. One or two specimens have occasionally been procured far in the interior; and I was told when at Latakoo, that a large Bat was often seen about the garden in the fruit season, which, from the description given, I am inclined to believe is, if not the common Cape species, at least a *Pteropus*.

Though I heard much while at the Cape of the large species (*Pteropus Hottentotus*, Tem.) I never, during my residence there, was so fortunate as to obtain a specimen.



a



DYSOPE S NATALENSIS
(Mammalia - Plate 49)

DYSOPES NATALENSIS.—SMITH.

MAMMALIA.—PLATE 49.

D. corpore superne inferneque sordido-brunneo-rubro; alis membranâque interfemorali pallide brunneo-rubris; facie parce pilis rigidis brevibus tectâ.

LONGITUDO è nasi apice ad basin caudæ 2 unc.; caudæ 1 unc. 6 lin.

COLOUR.—Fur above and below dull brownish red, that on the under parts lightest; the tint at the base and surface nearly, if not quite, the same. Wing and interfemoral membrane slight chocolate-brown; phalanges the same colour; toes and claws light brownish-red.

FORM, &c.—Figure rather slender; head narrow; ears rather large, and triangular, apex pointed, base very broad; external and internal divested of hair. Nose bare, thin, rounded anteriorly, and projecting over the upper lip, the nostrils opening downwards and forwards on its antero-inferior edge. Wing membrane very thin; wings, from anterior to hinder edge, rather narrow; antebrachial membrane triangular, arising from apex of shoulder, and inserted into the anti-brachium nearly midway between its two extremities. The hinder edge of the wing nearly straight, shewing only a slight projection at the extremity of each of the phalanges; the edge internally attached to the hinder leg a little behind the *tarsus*. Interfemoral membrane large, and somewhat seven-sided; the tail projecting considerably beyond it, where the two hinder sides meet; it is attached to the hinder extremity of the body, and to the inner side of each hinder leg throughout its whole length. Thumb short, slender, and armed with a small crooked nail. Toes of hinder extremities laterally compressed, slender, and each with a large, highly-curved nail, at the base of each of which there is a scanty tuft or pencil of long, rather coarse hair. The tail is long, and tapers to a point, rather more than half, from its base, inclosed in the femoral membrane, the remainder is quite free. Fur of the back, throat, and belly, short, silky, and closely set; face thinly sprinkled with short rigid hairs, or rather bristles; anterior edge of ear at

DYSOPES NATALENSIS.

base also edged with a few rigid hairs. Incisor teeth of upper jaw two, small, cylindrical, pointed, and much apart, one towards each canine; incisors of lower jaw closely set, and fill up completely the space between the canine teeth; the latter in each jaw, long, slightly curved, and pointed. Grinders of upper jaw, 6; of lower, the same number.

DIMENSIONS.

	In.	Lines.		In.	Lines.
Length from the apex of the nose to the			Length of anti-brachium.....	1	5
base of the tail.....	2	0	first joint of second finger ...	1	6
of the tail.....	1	6	middle finger ...	1	6
of the head	0	6½	third finger ...	1	5½
Expanse of wings	9	6	fourth finger ...	1	1

The specimen of which the preceding is a description, was killed near to Port Natal on the margin of a thick forest. It made its appearance in the dusk of the evening, and had not been long on the wing before it was in my possession. It is the only individual of the species I have seen.



VESPERTILIO LANOSUS.

(Mammalia—Plate 50)

VESPERTILIO LANOSUS.—SMITH.

MAMMALIA.—PLATE L.

V. corporis colore superne flavo-brunneo, pilis argenteis variegato, inferne rubri albo, pilis ad basin nigro brunneis; auribus externe emarginatis; membranâ interfemorali postice ciliatâ; pilis lanosis subcirratis.

LONGITUDO è nasi apice ad basin caudæ 2 unc. 3 lin.; caudæ 1 unc. 6 lin.

COLOUR.—The fur of the upper and lateral parts of the head, of the neck, and of the back, three coloured, viz., towards, and at the point, dirty white, or pale sienna-yellow, at the middle intermediate between brownish red and yellowish brown, and towards, and at the base liver-brown; the points of some of the hairs of the back are silvery white. The fur of the sides of the head, the throat, the breast, and the belly, is dirty reddish white towards the surface, and towards the base pale liver-brown, that which is thinly sprinkled on the upper surface of the interfemoral membrane at its base, is dirty white. Wing and interfemoral membranes dark brownish red. Ears pale brownish purple-red, tinted with flesh-red.

FORM, &c.—Figure slender; head broad; ears rather large and somewhat semicircular, the outer edge (*helix*) immediately below the highest point emarginate, or as if a small portion of it, nearly a line and a half in length, had been cut out, at the lowermost point the ear is truncated; *tragus*, long, narrow, and slightly curved. Nose depressed, bare, and rounded, the nostrils situated on its edge, one on each side. Wings from anterior to posterior edge rather wide; from tip to tip rather short; the antibrachial membrane extends from the point of the shoulder to the base of the thumb. The interdigital spaces much veined; the veins close to the sides of the body, numerous, and slightly oblique. Interfemoral membrane large and five-sided, the two hinder sides where they unite form a prominent angle behind, at which the tail terminates; this membrane, like that of the wings, is freely veined, the veins nearly all with a slightly oblique course from the sides

VESPERTILIO LANOSUS.

backwards toward the tail, which extends along the middle of the membrane. Hinder feet, small, slender, and superiorly thinly sprinkled with short hair; the claws rather long, moderately strong, and not much curved. Thumb about two lines long, and very slender, the claw short, slightly curved and pointed. The first finger reaches to the distal end of the second joint of the second finger, the fourth, and the membrane connected with it at its point form a prominent semicircular or subtriangular projection, which extends considerably beyond any other part of the hinder edge of the wings. The ears, externally, are thinly covered with short hair. The face, head, neck, back, breast, and belly, with rather long and frizzy hair, much resembling wool. The base of the interfemoral membrane superiorly, with a thin sprinkling of short hair of the same description; hinder edges of membrane fringed with very short, rather rigid hair.

DIMENSIONS.

	In.	Lines.		In.	Lines.
Length from the nose to the base of			Length of the anti-brachium	1	4 $\frac{1}{2}$
the tail.....	2	3	of the first joint of first finger...	1	2 $\frac{1}{2}$
of the tail.....	1	6	second finger	1	2 $\frac{1}{2}$
of the head	0	7	third finger	1	2 $\frac{1}{2}$
Expanse of the wings.....	9	10	fourth finger	1	2 $\frac{1}{2}$

In respect of colours, the *male* and *female* of this species are nearly alike.

The only specimens I obtained were killed in a wooded district stretching along the sea-shore, about two hundred miles to the eastward of Cape Town. Like other species of the genus, it appears as night sets in, and may then be seen flitting from spot to spot along the open spaces which exist here and there in different parts of the forest.



VESPERTILIO MINUTUS.
(Mammalia. - Pl. 51.)

VESPERTILIO MINUTUS.—TEM.

MAMMALIA.—PLATE LI.

V. superne, velle cre rubro-brunneo, infra flavo-brunneo versus basin rubro-brunneo; alis membrana interfemorali que brunneo-rubris; auribus subovatis, margine externa emarginata.

LONGITUDO e nasi apico ad basin caudæ 2 unc. 6 lin.; caudæ 2 unc.

Vespertilio, Hottentota et Capensis, Smith.—South African Quarterly Journal, New Series, vol. i. 1832.

COLOUR.—The fur of the upper and lateral parts of the head, neck, and body, deep reddish brown, towards base inclined to liver-brown, below the same colour tinted at the surface with pale yellowish brown. Wing and interfemoral membranes intermediate between brownish red and liver-brown; antibrachium and phalanges yellowish brown tinted with flesh-red. Ears light yellowish brown clouded with pale aurora-red; apex of nose flesh-red; eyes dark liver-brown.

FORM, &c.—Body rather broad; head small; nose bare and slightly truncated, nostrils apical and directed forwards. Eyes small; ears subovate and as wide as they are high, the outer margin of each a little below the point slightly emarginate; *tragus* narrow, about half the length of the ear, and slightly curved forwards, its apex arched. Thumb short and slender, claw small and much hooked; the termination of the first finger about midway between the first and second joints of the second finger. Wing membranes faintly veined; interfemoral membrane rather large, subtriangular, and posteriorly pointed, the tail not extended beyond the membrane. Fur moderately long, soft, and silky. Muzzle with a number of short, rigid hairs.

The *incisor* teeth of the upper jaw four, in pairs, close to the canines,—of the lower six, all contiguous, small, and multicuspidate, the points blunt; *canines* large and pointed; *molars* of upper jaw four, of lower five, each with one or more points on the outer edge, and with a more or less concave heel internally; the first molar both above and below, much the smallest.

Length from the nose to the base of the interfemoral membrane 2 inches and a half; of the tail 2 inches; expanse of wing 12 inches; length of the antibrachium 1 inch 8 lines.

Inhabits wooded districts throughout the whole of Southern Africa. It commences to seek its food about dusk; continues on the wing throughout the night, and retires to caves in the rock, or cavities in decayed trees, as daylight appears.

SCOTOPHILUS DINGANII.—SMITH.

MAMMALIA.—PLATE LIII.

S. *superne* villere viridi-brunneo, *infra* viridi-flavo; alarum membranâ purpureo-brunnea; caudæ particulâ ultra membranam interfemoralem extensâ; capite magno; labiis erassis.

LONGITUDO e nasi apice ad basin caudæ 3 unc. 6 lin.; caudæ 2 unc.

Vespertilio Dinganii, Smith.—South African Quarterly Journal, New Series, vol. i. 1832.

COLOUR.—The fur of the upper and lateral parts of the head, neck, and body intermediate between honey-yellow and dull orange coloured brown; of the under parts light honey-yellow. Wing and interfemoral membranes light reddish brown shaded with brownish red. The muzzle anteriorly, the upper lip and the ears yellowish brown tinted with flesh-red and faintly clouded with pale brownish red. Antibrachium and the phalanges intermediate between brownish red and lake-red. Ears light brownish red, with a tint of flesh-red. Wings and interfemoral membrane deep purplish brown.

FORM, &c.—Head rather large; nose broad, full, and rather square; sides of head over upper lip prominent, nostrils projecting and opening forwards; ears subovate and broader than high; *tragus* long, narrow, linear and subfalciform, its apex slightly rounded. Body rather robust; wings moderately large; antibrachium long and strong. Thumb slender, weak, and slightly hooked; the first toe reaches nearly to the second joint of the second toe. Interfemoral membrane rather large, posteriorly triangular, the tail projecting slightly beyond its point. Toes of the hinder feet moderately strong and nearly of equal length; claws strong and much curved. The nose and the sides of the head, towards the upper lip, thinly covered with short coarse hair; the rest of the head, neck, and body, densely coated with a fine, silky, rather long fur. Interfemoral membrane towards its base with a few short rigid hairs both on the upper and under surface.

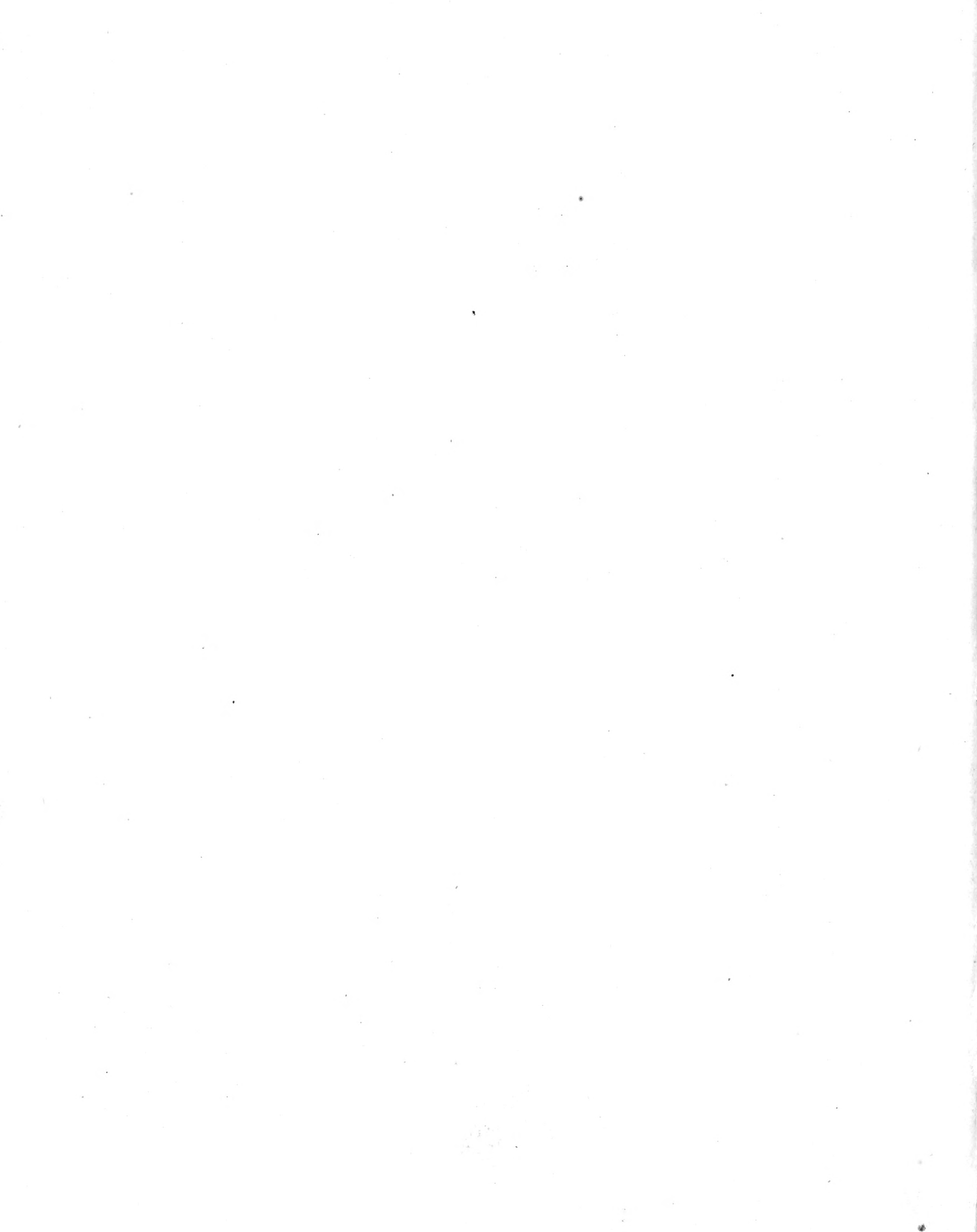
The *incisor* teeth of the upper jaw, in the specimen described, two, small, conical, and pointed, one close to each canine; those of the lower jaw six, closely set, small, laterally compressed, and each more or less bicuspidate. *Cunines* large, slightly curved, and pointed. The first *molar*, both above and below, conical and pointed; the others with several pyramidal points.

Length from nose to base of tail 3 inches 6 lines; length of tail 2 inches; length of antibrachium 2 inches 3 lines; expanse of wings 12 inches.

Specimens of this species are rarely procured in South Africa. The one I possess, and another which I saw in the possession of a trader, were both obtained in the country between Port Natal and Delagoa Bay. The former, when it was killed, was flitting to and fro on the margin of a forest, about sixty miles to the east of Natal.



SCOTOPHILUS DINGANII.
(Mammalia —. Plate 53.)





MINIOPTERUS DASYTHRIX
(Mammalia Plate 52)

MINIOPTERUS DASYTHRIX.—TEM.

MAMMALIA.—PLATE LII.

M. *superne rubro brunneus flavo brunneo-tinctus, capute dorsique parte posterioris griseo brunneo-umbratis, infra pallide brunneo-ruber flavo-brunneo tinctus; lateribus, abdominisque parte posteriore sordido-albis; auribus acuminatis, margine externâ versus apicem emarginata.*

LONGITUDO e nasi apice ad basin caudæ 2 unc. 9 lin.; caudæ 1 unc. 3 lin.

Vespertilio Natalensis, Smith.—South African Quarterly Journal, New Series, vol. i. 1832.

COLOUR.—The fur of the upper part of the head, neck, and body, intermediate between chestnut-brown and yellowish brown, that of the head and posterior part of the back tinted with broccoli-brown. On the under parts the general colour is a dull, pale brownish red, tinged with wood-brown; the flanks and hinder portion of the abdomen, dingy white. The wing and interfemoral membranes intermediate between wood-brown and yellowish brown, in places strongly tinted with pale reddish orange. Ears, tragus, and nose, nearly the same colour as the wing membranes.

FORM, &c.—Head, posteriorly rather broad, anteriorly narrow; nose rounded, the nostrils at its apex close together, and each with a raised margin; ears broad at the base, narrow towards the apex, which is pointed, the external margin of each slightly emarginate a little below the point; *tragus* narrow, subfalciform, and pointed. Eyes small, and situated close to the ears. Body moderately full; wings rather wide; interfemoral membrane large, somewhat triangular, and envelopes the whole of the tail. Toes of hinder feet short and nearly of equal length, claws slender and much curved. Alar membrane much veined, one large vein extending obliquely from the mesial extremity of the antibrachium to nearly the apex of the fourth finger; anterior to this, towards the body, the veins extend in straight lines from the antibrachium; toward the finger their direction is obliquely outwards and backwards. Behind the first-mentioned vein one portion of the more delicate ones, which are numerous, extend across

MINIOPTERUS DASYTHRIX.

towards the fourth finger, and another portion, more or less directly backward toward the hind margin of the membrane, and by crossing the former give rise to a number of small square compartments.

The *incisor* teeth of the upper jaw four, in pairs, wide apart, one pair close to each canine, the first of the two bicuspidate, the second simple and pointed; incisors of lower jaw six contiguous, the hindermost of each side, which is in contact with the canine tooth, the largest. The *canines* are conical and pointed, each with an elbow at the base on the inner side.

Length from the nose to the base of the interfemoral membrane 2 inches 9 lines; length of the tail 1 inch 3 lines; expanse of wings, including body, 11 inches 6 lines; length of antibrachium 1 inch 9 lines.

Inhabits the eastern parts of the Cape Colony, and also the districts to the northward and eastward of the frontier, more particularly those on the Southern Coast.

