





Alpheus Fuller Williams.

THE
BOOK OF ANTELOPES.

BY

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AND

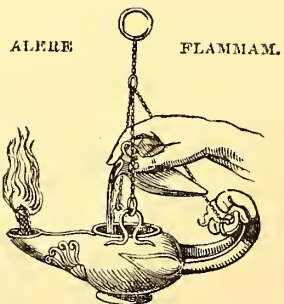
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CONTENTS.

—*—

VOL. II.

	Page
Subfamily III. NEOTRAGINÆ	1
Genus I. OREOTRAGUS	3
40. THE KLIPSPRINGER. <i>Oreotragus saltator</i> (Bodd.). [Plate XXV.]	5
Genus II. OUREBIA	13
41. THE CAPE ORIBI. <i>Ourebia scoparia</i> (Schreb.)	15
42. PETERS'S ORIBI. <i>O. hastata</i> (Pet.)	21
43. THE GAMBIAN ORIBI. <i>O. nigricaudata</i> (Brooke). [Plate XXVI.]	23
44. THE ABYSSINIAN ORIBI. <i>O. montana</i> (Cretzschm.)	25
45. HAGGARD'S ORIBI. <i>O. haggardi</i> (Thos.)	29
Genus III. RAPHCERUS	33
46. THE GRYSBOK. <i>Raphicerus melanotis</i> (Thunb.). [Plate XXVII. fig. 2.]	35
47. THE STEINBOK. <i>R. campestris</i> (Thunb.). [Plate XXVII. fig. 1.]	41
48. NEUMANN'S STEINBOK. <i>R. neumanni</i> (Matsch.)	47
Genus IV. NESOTRAGUS	49
49. THE ZANZIBAR ANTELOPE. <i>Nesotragus moschatus</i> , von Düb. [Plate XXVIII.] . . .	51
50. LIVINGSTONE'S ANTELOPE. <i>N. livingstonianus</i> , Kirk	55
Genus V. NEOTRAGUS	59
51. THE ROYAL ANTELOPE. <i>Neotragus pygmaeus</i> (Linn.). [Plate XXIX.]	61
Genus VI. MADOQUA	67
52. SALT'S DIK-DIK. <i>Madoqua saltiana</i> (Blainv.). [Plate XXX.]	69
53. SWAYNE'S DIK-DIK. <i>M. swaynei</i> , Thos.	73
54. PHILLIPS'S DIK-DIK. <i>M. phillipsi</i> , Thos. [Plate XXXI. fig. 2.]	75
55. THE DAMARAN DIK-DIK. <i>M. damarensis</i> (Günth.)	79
56. KIRK'S DIK-DIK. <i>M. kirki</i> (Günth.)	83
57. GÜNTHER'S DIK-DIK. <i>M. guentheri</i> , Thos. [Plate XXXI. fig. 1.]	89
Subfamily IV. CERVICAPRINÆ	93
Genus I. COBUS	95
58. THE COMMON WATERBUCK. <i>Cobus ellipsiprymnus</i> (Ogilby). [Plate XXXII.] . . .	97
59. THE SING-SING. <i>C. unctuosus</i> (Laurill.). [Plate XXXIII.]	105
60. CRAWSHAY'S WATERBUCK. <i>C. crawshayi</i> , Scl. [Plate XXXIV.]	109
61. PENRICE'S WATERBUCK. <i>C. penricei</i> , Rothsch. [Plate XXXV.]	113
62. THE DEFASSA WATERBUCK. <i>C. defassa</i> (Rüpp.). [Plate XXXVI.]	115

	Page
Subfamily IV. CERVICAPRINÆ (<i>continued</i>).	
Genus I. COBUS (<i>continued</i>).	
63. MRS. GRAY'S WATERBUCK. <i>Cobus maria</i> , Gray. [Plate XXXVII.]	121
64. THE WHITE-EARED KOB. <i>C. leucotis</i> (Licht. et Pet.). [Plate XXXVIII.]	127
65. THOMAS'S KOB. <i>C. thomasi</i> , Neumann. [Plate XXXIX.]	131
66. BUFFON'S KOB. <i>C. kob</i> (Erxl.). [Plate XL.]	137
67. THE POKU. <i>C. vardoni</i> (Livingst.). [Plate XLI.]	141
68. THE SENG KOB. <i>C. senganus</i> , sp. n.	145
69. THE LECHEE. <i>C. lechee</i> (Gray). [Plate XLII.]	149
Genus II. CERVICAPRA	155
70. THE REEDBUCK. <i>Cervicapra arundinum</i> (Bodd.). [Plate XLIII.]	157
71. THE BOHOR. <i>C. bohor</i> (Rüpp.)	165
72. THE NAGOR. <i>C. rehunca</i> (Pall.). [Plate XLIV.]	171
73. THE ROI RHÉBOK. <i>C. fulvorufula</i> (Afzel.). [Plate XLV.]	175
74. CHANLER'S REEDBUCK. <i>C. chanleri</i> , Rothsch.	183
Genus III. PELEA	187
75. THE VAAL RHÉBOK. <i>Pelea capreolus</i> (Bechst.). [Plate XLVI.]	189

LIST OF ILLUSTRATIONS

IN THE TEXT.

—*—

VOL. II.

Fig.	Page
23. <i>Ourebia scoparia</i> , ♂	17
24. Skull of <i>Ourebia haggardi</i> , ♂	30
25. Skull of <i>Nesotragus livingstonianus</i> , ♂	57
26. Skull of <i>Nesotragus pygmæus</i> , ♂	64
27. Skull of <i>Madoqua phillipsi</i>	77
28. Fore part of skull of <i>Madoqua damarensis</i> , side view	
28 a. Upper view of snout of <i>M. damarensis</i>	} 80
28 b. Lower view of snout of <i>M. damarensis</i>	
28 c. Lower view of snout of <i>M. saltiana</i>	
28 d. Posterior mandibular molar of <i>M. saltiana</i>	
28 e. Posterior mandibular molar of <i>M. damarensis</i>	
29. Head of <i>Madoqua kirki</i>	84
29 a. Skull of <i>Madoqua kirki</i> (side view)	85
29 b. Skull of <i>Madoqua kirki</i> (upper view)	85
30. Skull of <i>Madoqua guentheri</i> (side view)	90
30 a. Skull of <i>Madoqua guentheri</i> (from above)	90
31. Skull and horns of <i>Cobus crawshayi</i>	110
32. Head and foot of "Nsumma Antelope"	117
33. Head of <i>Cobus maria</i> , ♂	123
34. Head of <i>Cobus thomasi</i> , ♂	135
35. Horns of <i>Cobus vardoni</i> .—a. Side view; b. Front view	143
36. Head of <i>Cobus lechee</i>	151
37. Horns of <i>Cervicapra arundinum</i> from Nyasaland	163
38. Skull of <i>Cervicapra fulvorufula</i>	168
39. Skull of <i>Cervicapra bohor</i>	169
40. Head of <i>Cervicapra redunca</i>	174
41. Horns of <i>Cervicapra fulvorufula</i> , not adult	181
42. Horns of <i>Cervicapra fulvorufula</i> , aged	181
43. Head of <i>Cervicapra chanleri</i>	184
44. Head of Vaal Rhébok, ♂	193

THE BOOK OF ANTELOPES.

VOL. II.

SUBFAMILY III. *NEOTRAGINÆ*.

General Characters.—Size small. Muzzle either naked or elongated and hairy. Large anteorbital glands present, opening on the face by a small circular hole. Tail medium or short. False hoofs present or absent.

Skull with large anteorbital fossæ and, except in *Neotragus*, anteorbital vacuities. Frontal bones not projected backwards between the parietals, the horns placed above the hinder part of the orbits.

Horns present only in the male ; short, nearly or quite straight, vertical or reclining backwards ; ridged basally, smooth terminally.

Range of Subfamily. Africa.

The numerous small Antelopes belonging to this subfamily were all included by Sir Victor Brooke in two genera, one consisting of the Dik-diks (*Madoqua*) and the other of all the rest (called by him "*Nanotragus*"). Bearing in mind, however, the naturalness of the smaller groups into which "*Nanotragus*" may be divided, and the readiness with which these groups

may be recognized and defined, we think it better to allow six genera in all, the distinguishing points of which are shown in the following synopsis:—

- A. Nose not specially elongated, its tip with a distinct naked muffle. Crown not tufted.
- a.* Hoofs cylindrical, not pointed, the animal standing more or less on their tips. Hairs thick and pithy like those of a Musk-Deer. Horns vertical 1. OREOTRAGUS.
 - b.* Hoofs triangular, pointed, as in other Antelopes. Hairs normal.
 - a'*. A naked glandular spot below ear. Accessory hoofs present. Anteorbital fossa of skull very large 2. OUREBIA.
 - b'*. No glandular spot below ear. Accessory hoofs absent (except in *Raphicerus melanotis*).
 - a*². Horns nearly vertical. Anteorbital fossa small. 3. RAPHICERUS.
 - b*². Horns lying back nearly or quite to profile-line of face. Anteorbital fossa large.
 - a*³. Horns reaching to or past back of head. Anteorbital and nasal vacuities present 4. NESOTRAGUS.
 - b*³. Horns not nearly reaching back of head. No anteorbital or nasal vacuities 5. NEOTRAGUS.
- B. Nose elongated, its tip hairy round the nostrils. Crown tufted.
- 6. MADOQUA.

The recently discovered Beira Antelope of Somaliland (*Dorcotragus megalotis*) might also be supposed to be a member of this subfamily; but, after a careful consideration of its characters, we think it may best be regarded as an aberrant Gazelle, and as such we therefore propose to treat it. The undeniable resemblance that the nasal region of its skull shows to the same part in *Madoqua* appears, on the whole, more likely to be due to purely adaptive modification than are the various characters which it possesses in common with the members of the Gazelline group.

DSI

GENUS I. OREOTRAGUS.

	Type.
<i>Oreotragus</i> , A. Sm. S. Afr. Quart. Journ. ii. p. 212 (1834)	O. SALTATOR.
<i>Oritragus</i> , Glog. Naturg. i. p. 154 (1841)	O. SALTATOR.

Hoofs large, cylindrical, blunt, in shape and position quite different to those of other Antelopes. The animal in life walks upon what is normally the pointed tip of the hoofs, so that the hoof stands up vertically, only its blunted end resting on the ground. Accessory hoofs present. Hairs of coat thick, pithy, somewhat similar in texture to those of the Musk-Deer. Tail a mere stump, scarcely projecting beyond the fur.

Skull peculiarly short and broad, stoutly built. Anteorbital fossæ large.

Horns directed nearly vertically; slightly curved forwards; their basal third ringed.

Distribution. Eastern and Southern Africa, from Abyssinia to the Cape.

Only one species is known.



Smit del & lith

The Klipspringer .
OREOTRAGUS SALTATOR .

Richardson

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40. THE KLIPSPRINGER.

OREOTRAGUS SALTATOR (BODD.).

[PLATE XXV.]

Antilope oreotragus, Zimm. Geogr. Gesch. iii. p. 269 (1783); Schreb. Säug. pl. cclix. (1785); Gmel. Linn. S. N. i. p. 189 (1788); Kerr, Linn. An. K. p. 316 (1792); Donnd. Zool. Beitr. i. p. 637 (1792); Link, Beytr. Nat. ii. p. 99 (1795); Bechst. Allgem. Uebers. vierf. Thiere, i. p. 74 (1799), ii. p. 642 (1800); Shaw, Gen. Zool. ii. pt. 2, p. 321 (1801); Turt. Linn. Syst. Nat. i. p. 114 (1802); Desm. N. Dict. d'H. N. (1) xvi. p. 328 (1803); G. Cuv. Dict. Sci. Nat. ii. p. 233 (1804); Tiedem. Zool. i. p. 408 (1808); Thunb. Mém. Ac. Pétersb. iii. p. 311 (1811) (Table Mt.); Afzel. N. Act. Ups. vii. p. 219 (1815); Desm. N. Dict. d'H. N. (2) ii. p. 191 (1816); Goldf. Schr. Säug. v. p. 1228 (1818); Schinz, Cuv. Thierr. i. p. 392 (1821); Desm. Mamm. ii. p. 460 (1822); id. Dict. Class. i. p. 445 (1822); Burch. List Mamm. pres. to B. M. p. 6 (1825) (Orange Free State); Licht. Darst. Säug. pl. xv. (♂ ♀) (1828); J. B. Fisch. Syn. Mamm. p. 466 (1829); Rüpp. N. Wirb. Abyss., Mamm. p. 25 (1835); Less. Compl. Buff. x. p. 291 (1836); Waterh. Cat. Mamm. Mus. Z. S. (2) p. 42 (1838); Oken, Allg. Nat. vii. p. 1363 (1838); Gerv. Dict. Sci. Nat. Suppl. i. p. 262 (1840); Forst. Descr. Anim. p. 382 (1844); Wagn. Schr. Säug. Suppl. iv. p. 436 (1844), v. p. 412 (1855); Schinz, Syn. Mamm. ii. p. 410 (1845); Gieb. Säug. p. 318 (1854).

Antilope (Gazella) oreotragus, Licht. Mag. nat. Freund. vi. p. 175 (1814).

Cemas oreotragus, Oken, Lehrb. Nat. iii. part 2, p. 743 (1816).

Cerophorus (Cervicapra) oreotragus, Blainv. Bull. Soc. Philom. 1816, p. 75.

Antilope (Tragulus) oreotragus, H. Sm. Griff. An. K. iv. p. 245, v. p. 340 (1827); Smuts, Enum. Mamm. Cap. p. 79 (1832).

Antilope (Ourebia) oreotragus, Laurill. Dict. Univ. d'H. N. i. p. 622 (1839).

Tragelophus oreotragus, Rüpp. Verz. Senck. Mus. p. 37 (1842).

- Calotragus oreotragus*, Rüpp. in Wagn. Schr. Säug. Suppl. v. p. 414 (1855).
- Nanotragus oreotragus*, Brooke, P. Z. S. 1872, p. 642; Buckley, P. Z. S. 1876, p. 283 (distribution); Selous, P. Z. S. 1881, p. 762; id. Hunter's Wanderings S. Afr. p. 222 (1881); W. Sci. Cat. Mamm. Calc. Mus. ii. p. 167 (1891); Flow. & Lyd. Mamm. p. 329 (1891); Lyd. Horns and Hoofs, p. 219 (1893).
- Oreotragus oreotragus*, Jent. Cat. Ost. Leyd. Mus. (Mus. Pays-Bas, ix.) p. 131 (1887); id. Cat. Mamm. Leyd. Mus. (op. cit. xi.) p. 160 (1892); Matschie, Thierw. Ost-Afr. Säugeth. p. 122 (1895).
- Antilope saltatrix*, Bodd. Elench. p. 141 (1785); Link, Beytr. Nat. ii. p. 99 (1795); Less. Man. Mamm. p. 377 (1827); id. N. Tabl. R. A., Mamm. p. 177 (1842); Des Murs & Prévost, Lefebvre's Voy. Abyss. vi., Zool. p. 32, pl. iv. (animal); Huet, Bull. Soc. Acclim. 1887, p. 33.
- Oreotragus saltatrix*, Jard. Nat. Libr. (1) Mamm. vii. p. 221, pl. xxx. (1842); Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846); id. Knowsl. Men. p. 8 (1850); id. P. Z. S. 1850, p. 119; id. Ann. Mag. N. H. (2) viii. p. 137 (1851); id. Cat. Ung. B. M. p. 74 (1852); Gerr. Cat. Bones Mamm. B. M. p. 235 (1862); Blyth, Cat. Mamm. As. Soc. p. 167 (1863); Heugl. Ant. u. Büff. N.O.-Afr. (N. Act. Leop. xxx. pt. 2) p. 9 (1863); Fitz. SB. Wien, lix. pt. 1, p. 170 (1869); Blanf. Zool. Abyss. p. 265 (1870) (Senafé); Gray, Cat. Rum. B. M. p. 20 (1872); id. Hand-l. Rum. B. M. p. 90 (1873); Drumm. Large Game S. Afr. pp. 396, 425 (1875) (Drakenberg Range); Heugl. Reise N.O.-Afr. ii. p. 104 (1877); Brehm, Thierl. iii. p. 262 (1880); Gigl. Ann. Mus. Genov. (2) vi. p. 18 (1888) (Shoa); Bryden, Kloof and Karroo, p. 300 (1889); Hoyos, Zu den Aulihan, p. 186 (1895).
- Oreotragus saltator*, Kirk, P. Z. S. 1864, p. 657 (Shiré R.); Crawshay, P. Z. S. 1890, p. 653 (Nyasa); Thos. P. Z. S. 1891, p. 211 (Somali), 1892, p. 553 (Nyasa); Nicolls & Egl. Sportsm. S. Afr. p. 26, pl. v. fig. 18 (head) (1892); Swayne, P. Z. S. 1892, p. 308 (Somaliland); Thos. P. Z. S. 1894, p. 145 (Mt. Milanji); Jackson, Badm. Big Game Shooting, i. pp. 285, 309 (1894); Rendall, P. Z. S. 1895, p. 361.
- Calotragus saltatrix*, Temm. Esq. Zool. Guin. p. 191 (1853).
- Antilope klippspringer*, Desm. N. Dict. d'H. N. (1) xii. p. 390 (1804), xxiv. Tabl. p. 32 (1804).
- Oreotragus typicus*, A. Sm. S. Afr. Quart. J. ii. p. 212 (1834).
- Calotragus saltatrixoides*, Temm. Esq. Zool. Guin. p. 191 (1853) (no description); Rüpp. in Wagn. Schr. Säug. Suppl. v. p. 414 (1855) (Abyssinia).
- Antilope saltatrixoides*, Wagn. Schr. Säug. Suppl. v. p. 412 (1855).
- Oreotragus saltatrixoides*, Fitz. SB. Wien, lix. pt. 1, p. 170 (1869).
- VERNACULAR NAMES:—*Klippspringer* or *Klipbok* of Dutch and English Colonists;

Ee-go-go of Matabili; *Mgululu* of Makalakas; *Gereree* of Batongas; *Kululu* of Masaras (*Selous*); *Ikoko* of Kaffirs (*Drummond*) and of Swazis (*Rendall*); *Kainsi* of Hottentots (*Thunberg*); *Chinkoma* in Nyasa (*Crawshay*); *Sasa* in Amharic; *Embiraqua* in Tigré; *Quobtu* at Massowa (*Heuglin*); *Alikut* of Somalis (*Hoyos*).

Height about 20–22 inches. Fur long and of very peculiar texture, each hair being thick, flattened, wavy, and, in fact, quite unlike the hair of any other Antelope, but more similar to that of the Musk-Deer. The general colour is a curious mixture of brown and greenish yellow, each hair being whitish for three-quarters of its length, then brown, and tipped with greenish yellow. Specimens vary very much in the vividness and tone of the yellow, which, especially in old males, is often exceedingly bright, and even verging on orange, particularly along the flanks. Of geographical variation we have as yet failed to find any evidence. Chin white; throat grizzled brownish yellow; belly whitish. Back of ears grey, their edges black. Front and outer sides of limbs like back, inner sides white. Toes just above hoofs black. False hoofs large. Tail short and stumpy, coloured like the body.

Skull short and broad; basal length in an adult male 4·4 inches, greatest breadth 3·15, muzzle to orbit 2·4.

Horns attaining a length of $3\frac{1}{2}$ or 4 inches.

Hab. South and East Africa, north to Abyssinia, in mountainous and rocky districts.

The Klipspringer, as this little Antelope is universally called, although first made known to us by the Dutch settlers at the Cape, is also found in suitable localities throughout Eastern Africa as far north as Abyssinia. It derives its appropriate name of “Cliff-springer” or “Rock-jumper” from its habits of jumping about amongst the rocky eminences of the hills in which it is usually met with. Amongst the early authorities on natural history usually quoted Buffon appears to be the first to have given a description and figure of this Antelope. In the Supplement to his ‘*Histoire Naturelle des Animaux Quadrupèdes*,’ published in 1782, he calls it the “Klipspringer ou Sauteur des Rochers,” and figures it from a drawing communicated to him by the Forsters, in whose days

(1772-74) the Klipspringer was to be met with on the rocks of Vals Bay in the immediate vicinity of Cape Town. On Buffon's Klipspringer Zimmermann founded his *Antilope oreotragus* in 1783, and Boddaert his *Antilope saltatrix* in 1785. As we use *Oreotragus* for the generic name we will adopt *saltator*, the masculine form of *saltatrix*, as the specific appellation of this Antelope.

Harris, in his well-known 'Portraits of the Game Animals of South Africa,' gives us a picture of the Klipspringer on the same plate as that of the Mountain Zebra (*Equus zebra*), which in his time was still found in the high mountains of the Cape Colony, and supplies the following particulars :—

"During the pursuit of the Zebra, which was confined to the most steep and elevated parts of this rugged range, I repeatedly fell in with and killed the Klipspringer. Once extremely abundant in the Cape Colony, it is now daily becoming more rare—the venison being deservedly reputed among the first that the country affords, whilst the elastic hair is sought above all other materials for the stuffing of saddles. Long, padded, and standing out vertically from the side, it resembles moss in texture, and constitutes, as in the chamois of the Alps, a natural cushion to protect the animal from the contusions to which its habits must render it constantly liable. No antelope possesses more completely the lively gamboling manners of the young kid—none bound with greater force or precision from rock to rock, or clear the yawning abyss with more fearless activity. Found usually in pairs among the most precipitous rocks, and inaccessible summits, the Klipspringer would appear in Southern Africa to supply the place of the ibex and chamois; and such is the rigidity of its stiff pasterns, and the singular formation of the high cylindrical hoof, that even when at speed there is no track left but by the tips of the toes, whereas every other class of ruminant would leave, under similar circumstances, some traces also of the spurious hoofs. The most trifling obliquity or ruggedness of surface thus affording a secure foothold, the little animal, 'whose house is on the hill-top,' entertains a sense of self-security which oftentimes proves its ruin. Looking down from some craggy pinnacle, as if in derision of the vain efforts of its pursuer, it presents to the rifle the fairest of targets; and tumbled headlong from its elevated perch, pays the penalty of its rashness. Missed, it bounds from ledge to ledge, on which the human eye can mark no footing—

balancing at one moment upon the giddy verge of a precipice where barely sufficient space exists for the hoof to rest—at the next casting itself recklessly into the bottomless chasm, and pitching, as if by miracle, upon some projecting peak, where all four feet appear to be gathered into the space of one. Another spring, and, clear of the intervening gulf, it is nimbly scaling yon perpendicular barrier, that resembles the wall of a lofty citadel—and now it is sweeping securely away over the naked and polished tablets of granite which pave the summits of those elevated regions.”

Modern authorities on the Mammals of South Africa inform us that the Klipspringer, although not met with in the immediate vicinity of Cape Town, is still fairly common in certain districts of the broken and mountainous interior. In the hills about Kanya and Molopolole and in Bechuanaland, Messrs. Nicolls and Eglinton tell us it is plentiful. The same is the case in the Zoutspansberg, Waterberg, and Murchison Ranges, in the Transvaal, and throughout the broken portions of Matabeleland. Mr. Selous speaks of it as being “particularly plentiful in the curious detached stony hills of Matabeleland and Mashonaland.” In Natal Mr. W. H. Drummond tells us that he only found the Klipspringer on the Drachensberg Range, and, beyond the limits of the colony, on the precipitous faces of the Bombo Mountains.

Mr. Selous did not meet with this Antelope north of the Zambesi, but we have excellent authorities for its existence far beyond that limit. Peters, in his ‘*Reise nach Mossambique*,’ has recorded its occurrence on the Caruera Mountains near Tette. Sir John Kirk found it “singly or in pairs near the Kebrabassa Rapids of the Zambesi and on the Murchison Rapids of the Shiré;” and Mr. Whyte has sent us specimens from Mount Milanji, in Nyasaland, where it is found in pairs among rocks and on the higher ridges. It is also met with on Mount Zomba.

On Lake Nyasa Mr. Crawshay tells us that the Klipspringer is known as the “Chinkoma,” and is common in rough mountainous country. He praises its venison as “excellent,” and says that the skins are much prized by the hill-tribes of Nyasaland, who convert them into bags for carrying bread. Passing further northwards into German East Africa, we find this Antelope recorded as found in various mountainous localities. Böhm met with it on the Venusberg in Ugunda and Böhmer

near Mpapwe, while Stühlmann and Emin Pasha obtained specimens at Bussissi on the Victoria Nyanza. Herr Oscar Neumann found the Klipspringer near the top of Mount Gurui in Irangi (see 'Geographical Journal,' vi. p. 275). Even the extreme summit of this extinct volcano is clothed with a vegetation of alpine flowers and short grass which supplies it with subsistence. In British East Africa, Mr. Jackson informs us, the Klipspringer is met with only in the rocky broken ground on the slopes of the hills and large "earth-boils" between Teita and Turkueh, where there is no other game to be found.

In Somaliland, Captain Swayne tells us, the Klipspringer is known to the natives as the "Alakud." Here they live in the most rugged mountains, "poising themselves on the large boulders, and leaping from rock to rock." Finally, in Abyssinia we come to the most northern limit of this Antelope. The great explorer Rüppell was the first to meet with it in the rocky mountains of this country, and states that his specimens were undoubtedly identical with the Cape form, although attempts were subsequently made to separate the Abyssinian form under the barbarous name *Antilope saltatrixoides*. Heuglin also records the existence of the Klipspringer in the mountains of Abyssinia at elevations above 3000 feet. Mr. W. T. Blanford, F.R.S., who accompanied the Abyssinian Expedition of 1867-68, gives us the following particulars of this species:—"The Klipspringer is common on the more rocky of the Abyssinian hills, from a height of about 3000 feet above the sea, or rather less, to 8000 or 9000. In the pass below Senafé, and in that leading from Ain to the Anseba, by the valley of the Lebka, these little Antelopes were frequently seen, and they were common on some of the rocky precipices on the flanks of the great valleys around Senafé, Guna-Guna, Fokada, &c., usually solitary or in pairs. When alarmed they frequently perch on the very highest rocks, their agility in leaping from crag to crag being remarkable."

In the Cape Colony it is said that the Klipspringer, when taken young, is easily tamed and makes a most sagacious pet; but it does not appear to live long in captivity, and Mr. Bryden tells us that they are most difficult and troublesome to rear. We are not aware that specimens of this Antelope have ever been brought alive to Europe.

Our illustration of this species (Plate XXV.) has been taken by Mr. Smit from specimens in the British Museum. It represents an adult male in the foreground and a male and female together in the distance.

Besides two mounted specimens from the Cape, the British Museum contains three skins and skulls of this Antelope from Mounts Milanji and Zomba in Nyasaland (*Whyte*), an immature skull from Somaliland (*Swayne*), and some skins and skulls from Abyssinia.

December, 1895.

GENUS II. OUREBIA.

	Type.
<i>Ourebia</i> , Laurill. Dict. Univ. d'H. N. i. p. 622 (1839)	O. SCOPARIA.
<i>Scopophorus</i> , Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846)	O. SCOPARIA.

Size largest of the subfamily. Hoofs normal, triangular, pointed, the animal standing, as is usual, on the flattened lower side of the hoof, with the point directed forwards. Accessory hoofs present. A naked glandular patch below each ear, and tufts on the knees, present in all the species. Tail short, generally tufted with black.

Anteorbital fossæ of skull very large, their edges sharply ridged above and below. Anteorbital vacuities small. Nasal bones long.

Horns about three-quarters the length of the skull, slanting backwards, slightly or heavily ridged basally, smooth at the tip, but the different species vary considerably in the amount of ridging on the horns.

Distribution. Africa south of the Atlas.

The members of this genus are remarkably uniform in character, and there are scarcely any characters of importance to distinguish from each other species so widely distant geographically as the *Oribis* of the Gambia, Abyssinia, Zambesia, and the Cape.

The following are the groups into which they seem best to fall:—

- A. Horns comparatively slender and smooth, their basal two inches only slightly ridged.
- a. Tail markedly black, tufted.
- | | |
|----------------------------------|------------------------------|
| <i>a'</i> . S. African | 41. <i>O. scoparia</i> . |
| <i>b'</i> . Zambesian | 42. <i>O. hastata</i> . |
| <i>c'</i> . Gambian | 43. <i>O. nigricaudata</i> . |
- b*. Tail scarcely black-tipped.—Abyssinian. 44. *O. montana*.
- B. Horns thicker, heavily ridged for more than half their length.
45. *O. haggardi*.

41. THE CAPE ORIBI.

OUREBIA SCOPARIA (SCHREB.).

- Antilope ourebi*, Zimm. Geogr. Gesch. iii. p. 268 (1783); Shaw, Gen. Zool. ii. pt. 2, p. 320 (1801); Huet, Bull. Soc. Acclim. 1887, p. 89.
- Scopophorus ourebi*, Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846); id. Knowsl. Men. p. 7 (1850); id. P. Z. S. 1850, p. 118; id. Ann. Mag. N. H. (2) viii. p. 136 (1851); id. Cat. Ung. B. M. p. 73 (1852); Gm. Cat. Bones Mamm. B. M. p. 235 (1862); Fitz. SB. Wien, lix. pt. 1, p. 165 (1869); Gray, Cat. Rum. B. M. p. 19 (1872); id. Hand-l. Rum. B. M. p. 90 (1873).
- Calotragus oureby*, Temm. Esq. Zool. Guin. p. 191 (1853).
- Antilope scoparia*, Schreb. Säug. pl. cclxi. (animal) (1785); Afz. N. Act. Ups. vii. p. 220 (1815); Desm. N. Dict. d'H. N. (2) ii. p. 194 (1816); id. Mamm. ii. p. 464 (1822); Desmoul. Dict. Class. i. p. 446 (1822); Goldf. Schr. Säug. v. p. 1244 (1824); Burch. List Quadr. pres. to B. M. p. 7 (1825); H. Sm. Griff. An. K. iv. p. 244, v. p. 339 (1827); Less. Man. Mamm. p. 379 (1827); Licht. Darst. Säug. pl. xiii. (♂ & ♀) (1828); J. B. Fisch. Syn. Mamm. p. 469 (1829); Smuts, En. Mamm. Cap. p. 78 (1832); Less. Compl. Buff. x. p. 290 (1836); Oken, Allg. Nat. vii. p. 1362 (1838); Gerv. Dict. Sci. Nat. Suppl. i. p. 262 (1840); Less. N. Tabl. R. A., Mamm. p. 177 (1842); Wagn. Schr. Säug. Suppl. iv. p. 429 (1844), v. p. 411 (1855); Schinz, Syn. Mamm. ii. p. 414 (1845); Gieb. Säug. p. 316 (1854).
- Antilope (Ourebia) scoparia*, Laurill. Dict. Univ. d'H. N. i. p. 623 (1839).
- Redunca scoparia*, A. Sm. S. Afr. Quart. Journ. ii. p. 211 (1834).
- Oreotragus scoparius*, Gray, List Mamm. B. M. p. 164 (1843); id. List Ost. B. M. p. 146 (1847); Drumm. Large Game S. Afr. p. 426 (1875).
- Calotragus scoparius*, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 192 (1846); id. Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 144, Reprint, p. 68 (1848); Brehm, Thierl. iii. p. 260 (1880).
- Nanotragus scoparius*, Brooke, P. Z. S. 1872, p. 642; Selous, P. Z. S. 1881, p. 761; id. Hunt. Wand. S. Afr. p. 221 (1881); Bryden, Kloof and Karroo, p. 301 (1889);

Flow. & Lyd. Mamm. p. 339 (1891); Nicolls & Egl. Sportsm. S. Afr. p. 25, pl. v. fig. 15 (head) (1892); Ward, Horn Meas. p. 81 (1892); Lyd. Horns and Hoofs, p. 218 (1893).

Scopophorus scoparius, Jent. Cat. Ost. Leyd. Mus. (Mus. Pays-Bas, ix.) p. 131 (1887); id. Cat. Mamm. Leyd. Mus. (op. cit. xi.) p. 160 (1892).

Neotragus scoparius, Rendall, P. Z. S. 1895, p. 361.

Antilope melanura, Bechst. Allgem. Uebers. vierf. Thiere, i. p. 73 (1799), ii. p. 642 (1800).

Cemas melanura, Oken, Lehrb. Nat. iii. pt. 2, p. 743 (1816).

Scopophorus ourebi grayi, Fitz. SB. Wien, lix. pt. 1, p. 165 (1869).

VERNACULAR NAMES:—*Oribi* of Dutch and English Cape Colonists; *Iula* of Kaffirs (*Drummond*) and *Zulus* (*Rendall*).

Size comparatively large. General colour bright sandy rufous, of under-side pure sharply-defined white. Chin white. Throat and outer side of limbs like back. Above the anterior corner of each eye a white stripe, ending over the middle of the eye. Crown with or without a brown patch or horseshoe-shaped mark, which is very variable in its development. Auricular gland small, indistinct, scarcely more than half an inch in diameter. Knees with well-marked tufts of longer hairs. Small but distinct false hoofs present both on fore and hind feet. Tail with its tuft about four or five inches in length, its basal third sandy rufous like the back, the remainder thickly tufted, black.

Skull with a long slender muzzle. Supraorbital vacuities present. Pre-maxillæ not reaching the nasals. Anteorbital fossæ very large and open, filling up all the space in front of the orbits, their edges sharply ridged above and below.

Horns about four inches in length, slender, evenly tapering, slanting back at an angle of about 45° to the general line of the skull; very slightly curved upwards and forwards; their rings close together, low, rounded, and indistinct, present on the basal halves of the horns only.

Dimensions:—♂. Height at withers 24 inches, hind foot 11, ear 3·7.

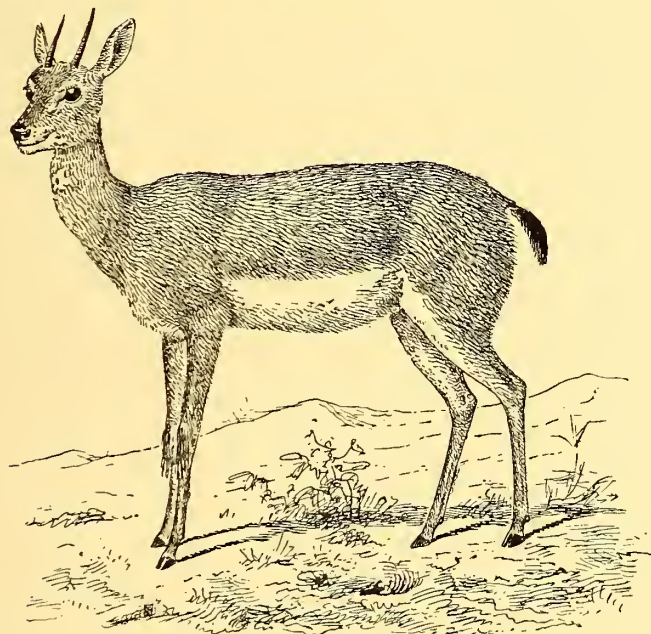
Skull: basal length 5·8, greatest breadth 2·9, muzzle to orbit 3·65.

Hab. S. Africa south of the Zambesi.

As in the case of the Klipspringer, this little Antelope first became known to naturalists in Europe through the Dutch settlers at the Cape. They called it

Ourebi, under which name it appears to have been first described and figured in Holland by Allamand in 1776. In 1783 Zimmermann based his *Antilope ourebi* upon Allamand's description, and two years later Schreber's plate of *Antilope scoparia* was copied from Allamand's figure. As it is necessary to use *Ourebia* as the generic designation of this Antelope we propose to adopt "*scoparia*," taken from the peculiar brushes (*scopæ*) that defend its knees, as its specific name.

Fig. 23.

*Ourebia scoparia*, ♂.

A better figure of this Antelope than that of Allamand was published by Lichtenstein about the year 1828 in the third part of his 'Darstellung neuer oder wenig bekannter Säugethiere,' a work which was devoted to the representation of new and little-known mammals of the Berlin Museum. Lichtenstein, who had himself travelled in South Africa, states that he had met with this species in Cafferland, and that it was known to the colonists as the "Bleekbok" or "Pale-buck," from its light colour, and was much valued as a game animal.

In 1861, when Mr. E. L. Layard prepared his Catalogue of the specimens in the collection of the South African Museum at Capetown, the Oribi was already nearly exterminated in the colony. But it still existed, he tells us, near Alexandria and Bedford in Somerset, and in some of the eastern divisions where large grassy plains are found. An "intelligent Kaffir," attached to the Museum, informed Mr. Layard that "the Oribi when slain by the natives belongs to the chief, who presents the fortunate hunter with a young cow in return. The skins of the Oribi are considered in the light of regal ermine and very highly valued."

When, however, we come to the open plains of Natal and Zululand we are assured by Messrs. Nicolls and Eglington, in the 'Sportsman in South Africa,' that the Oribi is even now very common. It also frequents the Transvaal in fair numbers, the Orange Free State, and parts of Matabeleland and Mashonaland. A few specimens are said to have been obtained in Bechuanaland, but it is unknown in the Kalahari Desert, and thence towards the west. The same observers tell us that "in speed the Oribi is very fast, and that it dodges from side to side when it runs in a peculiar manner with a series of leaps and rushes. It frequents the open flats, singly or in pairs, but keeps within reasonable distance of water."

As regards the exact range of the Oribi in Mashonaland, Mr. F. C. Selous, in his 'Hunter's Wanderings,' gives us the following particulars:—"North of the Limpopo, this Antelope is only to be met with in the following districts, viz. in north-eastern Mashonaland from the river Umzweswe to beyond the river Hanyana, in the open valleys which occur between the forest belts near the watershed, but to the north of the Machabe hills; on the exposed open downs nearer the watershed, and lying between the Machabe hills and Intaba Insimbi, I never saw any. On a large flat about fifty miles to the south of the junction of the Umfule and Umniati rivers, I saw a good many Oribi in 1880. Except in this district of the Mashona country, the only other place south of the Zambesi where this Antelope exists is in the valley of Gazuma, an open boggy flat of only a few hundred acres in extent, which is situated at about thirty miles to the south-west of the Victoria Falls. Then again a few are to be seen on the northern bank of the Chobe, on the open ground bordering the marsh, in the neighbourhood of Linyanti. One never sees more than two or three of these Antelopes

together. The horns of the male attain to a length of about 5 inches, and are ringed at the base."

There is a mounted pair of this species in the gallery of the British Museum which formerly belonged to the old "South-African Museum" of Sir Andrew Smith, besides some skins and skulls from the Cape without exact particulars. There is also the skull of an adult male from the Umfili River, Mashonaland, obtained by Mr. F. C. Selous, in the same Collection.

We are not aware that the Oribi has been kept in captivity in the Cape Colony, or ever brought alive to Europe.

December, 1895.

42. PETERS'S ORIBI.

OUREBIA HASTATA (PET.).

- Antilope hastata*, Peters, Reise Mossamb., Säug. p. 188, pl. xl. (animal), pl. xli. fig. 2, pl. xlii. fig. 2 (skull) (1852) (Senna); Gieb. Säug. p. 317 (1854); Wagn. Schr. Säug. Supp. v. p. 411 (1855); Huet, Bull. Soc. Acclim. 1887, p. 46.
- Calotragus hastata*, Temm. Esq. Zool. Guin. p. 191 (1853).
- Scopophorus hastatus*, Fitz. SB. Wien, lix. pt. 1, p. 165 (1869); Matschie, Thierw. Ost-Afr. Säügeth. p. 121 (1895).
- Nanotragus hastatus*, Brooke, P. Z. S. 1872, p. 642; Flow. & Lyd. Mamm. p. 339 (1891); Lyd. Horns and Hoofs, p. 219 (1893).
- Nanotragus scoparius*, Thos. P. Z. S. 1893, p. 504, 1894, p. 146 (Nyasa).
- Scopophorus montanus*, Matschie, Thierw. Ost-Afr. Säügeth. p. 121.

VERNACULAR NAME :—*Dutsa* at Senna (Peters).

Similar in all respects to *O. scoparia*, except that the auricular gland is considerably larger and more conspicuous, and the tail is slenderer, less tufted, and is more or less white along its edges below.

Skull and horns apparently quite as in *O. scoparia*.

Hab. Mozambique and Nyasaland.

When the late Dr. William Peters made his great expedition to the Portuguese colony of Mozambique from 1842 to 1848 the Zoology of the Eastern Coast of Africa was almost unknown to us. Many, therefore, were the discoveries made by that distinguished traveller and naturalist, and subsequently described in his 'Naturwissenschaftliche Reise nach Mossambique.' Amongst them, in the volume devoted to the Mammals of the Expedition, we find a figure and description of the present Antelope, which was met with by Peters on the bush-clad plains of Sena and Shupanga,

situated about 17° S. lat., and from 30 to 60 miles from the coast. Peters allows that the present form comes very near the typical *O. scoparia*, but considers that it differs in its longer ears, the smaller size of the naked spot beneath the ear, the white underside of the tail, and the less compressed form of the hoofs. Peters's specimens are in the Berlin Museum.

More recently the British Museum has acquired several skins of an Antelope, which should be the same, to judge from its locality, as Peters's *O. hastata*, among the splendid collections amassed by Sir H. H. Johnston in Nyasaland with the aid of his naturalist Mr. Alexander Whyte, F.Z.S. These were obtained on the grassy plains between Zomba, where Mr. Whyte is resident, and Lake Shirwa. These materials, however, are not yet sufficient to enable us to pronounce a decided opinion as to whether this Oribi should be really treated of as a species distinct from its brother of the Cape Colony. The two forms certainly come very near one another, and we are rather doubtful whether they can be properly distinguished.

December, 1895.



W. F. Cole, Sculp. lith.

The Gambian Oribi
OUREBIA NIGRICAUDATA

Hornhart imp.

Published by J. H. Potter

43. THE GAMBIAN ORIBI.

OUREBIA NIGRICAUDATA (BROOKE).

[PLATE XXVI.]

Ourebi du Sénégal, F. Cuv. H. N. Mamm. (fol.) iii. livr. lx. (♀) (1829).

Scopophorus montanus, Gray, Knowsl. Men. p. 7, pl. v. (animal) (1850) (Gambia)
(nec Cretzschm.).

Nanotragus nigricaudatus, Brooke, P. Z. S. 1872, p. 874, pl. lxxv. (animal) (Gambia);
Ward, Horn Meas. p. 81 (1892); Lyd. Horns and Hoofs, p. 219 (1893).

Oreotragus scoparius, Scl. P. Z. S. 1867, p. 1039.

Neotragus nigricaudatus, Scl. List An. Z. S. (8) p. 145 (1883).

VERNACULAR NAME :—*Gebari* or *Mahomet's Antelope* on the Gambia (*Whitfield* fide *Gray*).

Closely allied to *O. montana*, but still smaller, and the general colour greyer; the auricular gland as large as in *O. hastata*, and the tail with a blackish tuft, as in *O. scoparia*. Top of muzzle brown.

Dimensions of the typical specimen, ♂ :—Height at withers 21 inches; length of hind foot 10, of ear 3·4.

Hab. Open districts of the Gambia and Senegal.

It was not to be expected that any representative of the Oribi would be found in Congoland or within the great forest-clad region of Western Africa. But when we come to the more open country of Senegal and the Gambia, an allied and nearly similar species appears upon the scene. The first evidence of its existence was given by F. Cuvier in 1829 by the publication of a figure and description of a female specimen under the name of the “Ourebi du Sénégal,” which was brought home alive by M. Perrotet, but died shortly after its arrival at Paris.

Again, some years later, Whitfield, one of the collectors employed by Lord Derby, brought home from the Gambia a living example of an Antelope, which was subsequently figured in 1845 for the 'Knowsley Menagerie' by Waterhouse Hawkins. This figure was referred by Gray, who drew up the letterpress of that splendid work, to the Abyssinian Oribi next described, but there can be little doubt that it really belonged to the Gambian form. Whitfield gave the native name of this Antelope on the Gambia as "Gebari."

In May 1867 the Zoological Society received as a present from Mr. Charles B. Mosse a fine young male of this Oribi, which was eventually the means of making the species better known. It was at first referred by Sclater to the Cape Oribi, but afterwards considered to be more probably attributable to the Abyssinian *O. montana*. In 1872, however, when the animal was still living and quite adult, Sir Victor Brooke, at Sclater's invitation, took up the question, and in a paper read before the Zoological Society, and subsequently published in their 'Proceedings' for that year, showed that neither of these determinations was correct, and that the Gambian animal belonged, in his opinion, to an unnamed species, which he proposed to call *Nanotragus nigri-caudatus*. Although, like the two preceding species, the Gambian Oribi has a black tail, its smaller size seems to be sufficient to distinguish it from its congeners. Sir Victor had a water-colour drawing made of this animal by Wolf, from which both the figure published in the Zoological Society's 'Proceedings' and the Plate now given (Plate XXVI.) have been prepared. This typical specimen is now in the British Museum, which has likewise two other young specimens from West Africa, without further details.

Mr. Mosse, who brought the type specimen home himself, supplied Sir Victor with the information that he had procured it in March 1867, when it was only two or three months old, and that it had been caught on the banks of the Gambia about 70 or 80 miles from Bathurst, midway between that town and Macarthey's Island. Mr. Mosse had never met with a second individual.

In 1873 and 1876 the Zoological Society received female specimens of what were believed to be the same Antelope, but they did not live long in the Gardens.

December, 1895.

44. THE ABYSSINIAN ORIBI.

OUREBIA MONTANA (CRETZSCHM.).

- Antilope brevicaudata*, Rüpp. MS. (N. Wirb. p. 25, 1835).
- Antilope montana*, Cretzschm. Atl. Rupp. Reise, Säug. p. 11, pl. iii. (Fazogloa Mts., Blue Nile) (1826); J. B. Fisch. Syn. Mamm. p. 469 (1829); Rüpp. N. Wirb. Abyss., Mamm. p. 25 (1835); id. P. Z. S. 1836, p. 3 (occurrence of canines); Less. Compl. Buff. x. p. 290 (1836); Oken, Allg. Nat. vii. p. 1362 (1838); Laurill. Dict. Univ. d'H. N. i. p. 623 (1839); Less. N. Tabl. R. A., Mamm. p. 177 (1842); Wagn. Schr. Säug., Suppl. iv. p. 431 (1844), v. p. 412 (1855); Schinz, Syn. Mamm. ii. p. 421 (1845); Gieb. Säug. p. 316 (1854); Huet, Bull. Soc. Acclim. 1887, p. 34.
- Redunca montana*, A. Sm. S. Afr. Quart. Journ. ii. p. 211 (1834).
- Tragelaphus montanus*, Rüpp. Verz. Senck. Mus. p. 37 (1842).
- Calotragus montanus*, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 193 (1846); id. Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 144; Reprint, p. 68 (1848); Temm. Esq. Zool. Guin. p. 191 (1853); Heugl. Ant. u. Büff. N.O.-Afr. (N. Act. Leop. xxx. pt. 2) p. 8 (1863); id. Reise N.O.-Afr. ii. p. 104 (1877).
- Scopophorus montanus*, Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846); id. op. cit. (2) viii. p. 137 (1851); id. Cat. Ung. B. M. p. 74 (1852); Sci. P. Z. S. 1864, p. 101 (Karagweh); Fitz. SB. Ak. Wien, lix. pt. 1, p. 165 (1869); Blanf. Zool. Abyss. p. 266 (1870) (Dolo, Abyssinia); Gray, Cat. Rum. B. M. p. 19 (1872); Gigl. Ann. Mus. Genov. (2) vi. p. 18 (1888) (Shoa); Jent. Cat. Mamm. Leyd. Mus. (Mus. Pays-Bas, xi.) p. 160 (1892).
- Nanotragus montanus*, Brooke, P. Z. S. 1872, pp. 642 & 875; W. Sci. Cat. Mamm. Calc. Mus. ii. p. 166 (1891); Flow. & Lyd. Mamm. p. 339 (1891); Ward, Horn Meas. p. 82 (1892); Lyd. Horns and Hoofs, p. 218 (1893); Jackson, Badm. Big Game Shooting, pp. 285 & 299 (1894).
- Antilope madoqua*, Schweinfurth, Herz. von Afrika, i. p. 266, fig. head, ii. p. 535 (1874) (*nec* H. Sm., *nec* Rüpp.).
- VERNACULAR NAMES:—*IP Amra*, *Atrob*, or *Odrob* in Arabic; *Fiego* in Amharic; *Waital* in Geez (*Heuglin*); *Lohdj* in Dinka; *Nettjüde* in Djur; *Heggoleh* in Bongo; *Kullah* in Mittu; *Bongbaljah* in Niam-niam; *Laffa* in Golo; *Kehdo* in Kredj; *Ngogoh* in Ssehre; *Akonj* in Shilluk (*Schweinfurth*).

Similar to *O. scoparia* in most respects, but the tail shorter, less bushy, and almost wholly of the colour of the back, the terminal black tuft being reduced to a few darker hairs at the extreme tip; there are also a considerable number of white hairs along each side of it below. Auricular gland large, quite naked.

Skull dimensions (σ):—Basal length 5·65 inches, greatest breadth 2·95, muzzle to orbit 3·44.

Hab. Abyssinia and Bongoland.

As already pointed out, the Abyssinian representative of this group differs slightly in structure from the forms of the Oribi of which we have previously spoken. Its specific name would also indicate that it is an inhabitant of a higher district, although Rüppell tells us that when he sent the original specimen from Senaar in 1823 he had given it in his Manuscript "a far more appropriate" one. Be that as it may, Cretzschmar, who undertook the description of the vertebrates transmitted by Rüppell to the Museum Senckenbergianum before the return home of the latter, chose to call it "*montana*," and this term cannot now, of course, be altered.

The original specimen of *Ourebia montana* was obtained by Rüppell's collector Hey (after whom Hey's Partridge, *Ammoperdix heyi*, was subsequently named by Temminck) on the hills of Fazogloa on the Blue Nile in 1823. Rüppell afterwards found many individuals of it on the high plains of Woggera in the neighbourhood of Gondar and in the valleys of the Kulla, where they resort to the grassy ravines and thorny jungles. He remarks that only the male carries horns, but that both sexes have a pair of inguinal glands, the openings of which are concealed by long tufts of white hair. The female has four teats. He also remarks that (as he communicated to the Zoological Society of London, of which Rüppell was a Foreign Member, in 1836) the young males of this Antelope occasionally possess the germs of a pair of canine teeth, which are lost in the adult stage. This anomaly, however, has also been noticed in other Ruminants.

Theodor von Heuglin met with this Antelope in several districts of Central and West Abyssinia at elevations of from 6000 to 8000 feet above the sea-level. He remarks that it prefers the rocky and bushy parts of the steppes, and often cries out like a Roebuck when struck by a shot. Dr. W. T. Blanford, F.R.S., found this Antelope rare in the country traversed by the

Abyssinian Expedition of 1867-68. He saw it only two or three times, near Dolo and Harkhallet, north of Antalo, at an elevation of about 7000 feet above the sea-level, where it inhabits bushy ground or high grass. A buck shot by Mr. Blanford was $22\frac{1}{2}$ inches high at the shoulder, the mammæ were four in number, and the suborbital and inguinal glands were well developed. We learn from Mr. W. L. Sclater's 'Catalogue,' that one of Mr. Blanford's skins is now in the Indian Museum, Calcutta.

Finally Dr. Giglioli includes the Abyssinian Oribi amongst the mammals of which specimens have been transmitted to Italy from Shoa by the Italian naturalists Boutourline and Traversi. Dr. Giglioli observes that the sexes were alike in colour in these specimens, but that the male was rather larger in size than the hornless female.

The head of the "Madoqua" figured by Schweinfurth in 'Im Herzen von Afrika' (vol. i. p. 266) was probably taken from an example of this Antelope. It was met with along with a species of Duiker in Bongo on the upper waters of the Bahr-el-Ghazal, and observed in pairs among the bushes. Its native name there is "Heggolah."

In the British Museum there are the skull of an adult male of this species and three skins of females from Dembelas, Abyssinia.

December, 1895.

45. HAGGARD'S ORIBI.

OUREBIA HAGGARDI (THOS.).

Nanotragus hastatus, Jackson, Badm. Big Game Shooting, i. p. 285 (1894) (Tana R. & Lamu) (nec Peters).

Neotragus haggardi, Thos. Ann. Mag. N. H. (6) xv. p. 187 (1895) (Lamu).

VERNACULAR NAME :—*Taya* of Swahilis (*Haggard and Jackson*).

Size as in *O. scoparia* and *O. hastata*. Auricular gland well developed.

Other external characters not yet positively known.

Skull with a rather shorter muzzle than in the common species. Horns very much thicker and heavier than in any of the previous species; the ridges strongly developed and sharply angular. Owing partly to the development of the ridges the front edge of their lower half is convex forwards, while the upper half is as usual concave forwards; viewed from the side the horns therefore appear to have a slight tendency towards the serpentine double curvature characteristic of the Gazelles, although far less developed.

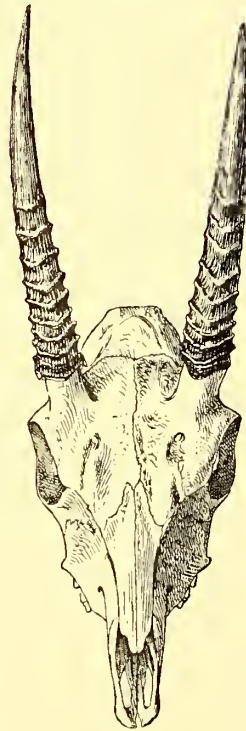
Skull dimensions (σ):—Basal length 5·6 inches, greatest breadth 2·97, orbit to muzzle 3·4.

Hab. Coasts of British East Africa, near Lamu.

A fifth species of Oribi, with which as yet we are only imperfectly acquainted, seems to be found in British East Africa and the adjoining districts of Southern Somaliland. Its size is that of the Cape and Zambesian species, and its auricular gland is well developed. But it is readily distinguishable from all the other members of the group by its thick and strongly ridged horns, which contrast markedly with the slender and comparatively smooth horns of all the preceding species.

Thomas was originally inclined to refer the three skulls of this Oribi which were received in 1887 from Mr. J. G. Haggard, then H.B.M. Vice-Consul at Lamu, to Peters's *Ourebia hastata*. When, however, he had afterwards obtained specimens of the Oribi of Nyasaland, which were doubtless to be referred to the form described by Peters, he perceived his error, and proceeded to base a new species upon the specimens in question, assigning to it the name of their collector and donor, according to whom this Antelope is known to the Swahilis at Lamu as "Taya."

Fig. 24.

Skull of *Ourebia haggardi*, ♂.

Mr. F. J. Jackson, in his 'Big Game Shooting,' gives us the following account of the "Taya":—

"The East-African Oribi (also known to the Swahilis as 'Taya') I have found more plentiful on the mainland near Lamu than anywhere else. Sir Robert Harvey and Mr. Hunter, in October and November 1888, also found

it in fair numbers up the Tana river. I have never seen it myself south of the Sabaki, though doubtless it is to be met with there also in suitable places. At Merereni, where the country seems admirably suited to its habits, although I was shooting there for some time in 1885 and 1886, I never saw one, though fifteen miles further south, near Mambrui, I observed its spoor. This confirmed me in my theory that the Oribi is very partial to the vicinity of cultivated tracts, and I do not remember having seen one in an uninhabited district. At Taka, a small village on the mainland opposite Patta Island, I saw great numbers in 1885.

“In the vicinity of this village there was a great deal of land which at one time had been under cultivation, but was then lying fallow and covered with coarse dry grass, about two feet high. This afforded excellent covert, and, as the colour of these little Antelopes closely resembles that of dry grass, it was very difficult to see them. Except in one way, stalking them was quite hopeless. I found that the only plan to get them was to walk them up with one or two beaters on each side of me, and shoot them with a gun loaded with S. S. G. shot. They lie so close that they will let the sportsman get within ten or fifteen yards of them before they will move, but they rarely give him a chance of a shot under from forty to fifty yards. When they first get up it is only possible to follow their movements by the waving of the grass. It is necessary, however, always to be prepared for a snap-shot, as after going some twenty to thirty yards they will bound up into the air, offering a capital chance, which may be the only one, as they will be out of range before they again appear in like manner. This bounding into the air is, I believe, to enable them to see where they are going to, and it is a curious fact that when they alight they invariably do so on their hind legs, not unlike a Kangaroo.

“An Oribi, even when only slightly wounded, will, as a rule, go a very short distance before lying down, and the sportsman should, therefore, be careful to follow up all those that he thinks he may have touched.”

Besides Mr. Haggard's skulls from Lamu, on which Thomas founded this species, and a head from the same place in Mr. Jackson's private collection, there is in the National Museum the perfect skin and skull of a fine Oribi recently obtained in East Africa and presented by Mr. A. H. Neumann. No information as to its exact locality has as yet reached us, and as its skull differs somewhat from that of the Lamu *O. haggardi*, we are at present

unable to form a definite opinion as to its specific identity. If, as seems probable, this interesting specimen is really referable to the present form, we may say that *O. haggardi* is in general colour rather greyer than the other species, and that its tail has a decided black tuft at the end, the proximal part of this organ being white-edged below. To identify this specimen with the present species, however, will involve the recognition of a considerable degree of variation in the skull and horns, and without further material we are unable to do so definitely.

December, 1895.

GENUS III. RAPHICERUS.

	Type.
<i>Raphicerus</i> , H. Sm. Griff. An. K. v. p. 342 (1827)	R. CAMPESTRIS.
<i>Calotragus</i> , Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 192 (1846) .	R. CAMPESTRIS.
<i>Pediotragus</i> , Fitz. SB. Ak. Wien, lix. pt. 1, p. 163 (1869)	R. CAMPESTRIS.

Accessory hoofs present or absent. No naked glandular spots below ears or tufts on knees. Tail short.

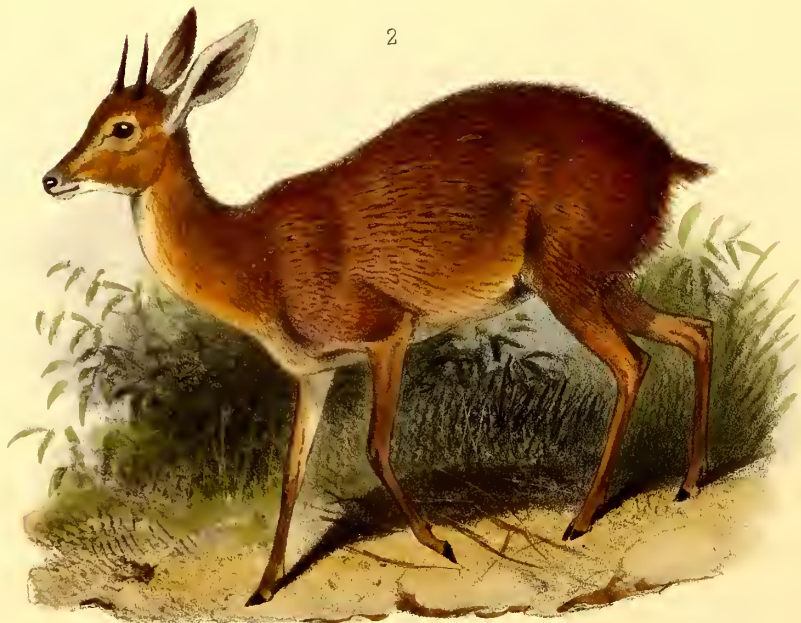
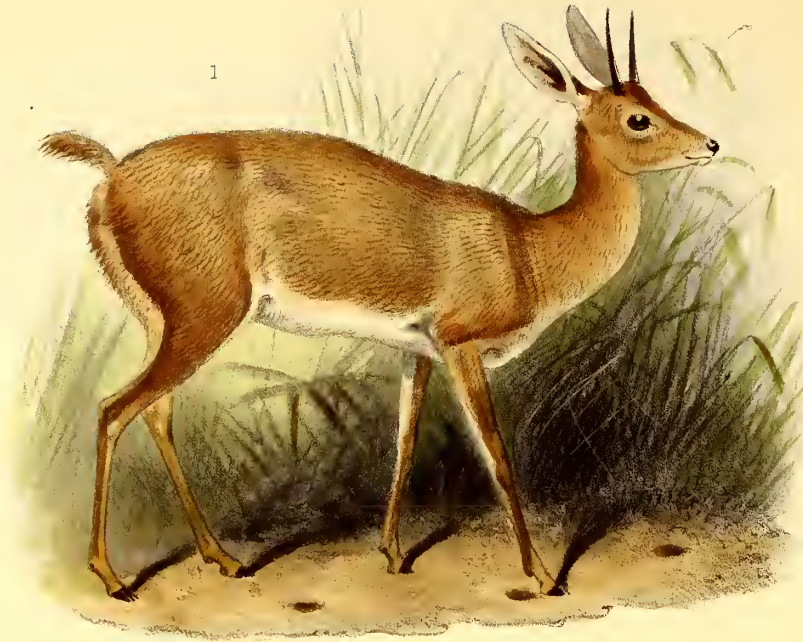
Skull stout and strongly built, with a short broad muzzle. Anteorbital fossæ small but deep, their edges rounded and unridged above and below.

Horns nearly vertical, slender, scarcely ridged.

Distribution. South and East Africa.

The species we refer to this genus may be divided as follows:—

- A. Accessory hoofs present. Fur profusely mixed with white.
46. *R. melanotis*
- B. Accessory hoofs absent. Fur uniform in colour.
- a. S. Africa 47. *R. campestris*.
- b. Ugogo 48. *R. neumanni*



Welf del. Smut lith

Fig 1. The Steinbok.
RAPHICEROS CAMPESTRIS.
Fig 2. The Grysbok.
RAPHICEROS MELANOTIS.

Hartnagel sculp.

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46. THE GRYSBOK.

RAPHICERUS MELANOTIS (THUNB.).

[PLATE XXVII. FIG. 2.]

- Greisbock*, Thunb. Resa, ii. p. 12 (1789); English Transl. ii. p. 11 (1793).
Antilope melanotis, Thunb. Mém. Ac. Pétersb. iii. p. 312 (1811); Afzel. N. Act. Ups. vii. pp. 257 & 262 (1815); Goldf. Schr. Säug. v. p. 1235 (1818); Desm. Mamm. ii. p. 459 (1822); Less. Man. Mamm. p. 376 (1827); Licht. Darst. Säug. pl. xii. (♂ & ♀) (1828); J. B. Fisch. Syn. Mamm. p. 465 (1829); Smuts, En. Mamm. Cap. p. 82 (1832); Waterh. Cat. Mamm. Mus. Z. S. (2) p. 42 (1838); Oken, Allg. Nat. vii. p. 1363 (1838); Laurill. Dict. Univ. d'H. N. i. p. 623 (1838); Wagn. Schr. Säug. Suppl. iv. p. 438 (1844), v. p. 411 (1855); Schinz, Syn. Mamm. ii. p. 413 (1845); Pet. Reise Mossamb., Säug. p. 187 (1852) (Zambesi); Gieb. Säug. p. 318 (1854); Huet, Bull. Soc. Acclim. 1887, p. 488.
Antilope tragulus melanotis, Licht. Mag. nat. Freund. vi. p. 176 (1814); Forst. Descr. Anim. p. 375 (1844).
Tragulus melanotis, A. Sm. S. Afr. Quart. Journ. ii. p. 213 (1834); Harris, Wild Anim. S. Afr. (fol.) pl. xxvi. fig. 2 (1840).
Tragelaphus melanotis, Rüpp. Verz. Senck. Mus. p. 37 (1842).
Calotragus melanotis, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 192 (1846); id. Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 144; Reprint, p. 68 (1848); Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846); id. Knowsl. Men. p. 7 (1850); id. P. Z. S. 1850, p. 118; id. Ann. Mag. N. H. (2) viii. p. 136 (1851); id. Cat. Ung. B. M. p. 72 (1852); Temm. Esq. Zool. Guin. p. 192 (1855); Gerr. Cat. Bones Mamm. B. M. p. 235 (1862); Blyth, Cat. Mamm. Mus. As. Soc. p. 166 (1863); Layard, Cat. S. Afr. Mus. p. 70 (1861); Fitz. SB. Ak. Wien, lix. pt. 1, p. 165 (1869); Gray, Cat. Rum. B. M. p. 19 (1872); id. Hand-l. Rum. B. M. p. 90 (1873); Jent. Cat. Ost. Leyd. Mus. (Mus. Pays-Bas, ix.) p. 131 (1887); id. Cat. Mamm. Leyd. Mus. (op. cit. xi.) p. 159 (1892); Matschie, Thierw. Ost-Afr. Säugeth. p. 120 (1895).

- Nanotragus melanotis*, Brooke, P. Z. S. 1872, p. 642; Selous, P. Z. S. 1881, p. 762 (distribution); id. Hunt. Wanderings S. Afr. p. 222 (1881); Bryden, Kloof and Karroo, p. 300 (1889); W. Sci. Cat. Mamm. Calc. Mus. ii. p. 167 (1891); Flow. & Lyd. Mamm. p. 339 (1891); Nicolls & Egl. Sportsm. S. Afr. p. 26, pl. viii. fig. 29 (head) (1892); Lyd. Horns and Hoofs, p. 219 (1893); Lorenz, Ann. Mus. Wien, ix. p. 60 (1895).
- Neotragus melanotis*, Sci. List Anim. Z. S. (8) p. 145 (1883); id. P. Z. S. 1895, p. 590; Rendall, P. Z. S. 1895, p. 361.
- Antilope grisea*, G. Cuv. Dict. Sci. Nat. ii. p. 244 (1816); Burch. List Mamm. pres. to B. M. p. 6 (1825) (Plettenberg's Bay); H. Sm. Griff. An. K. iv. p. 250, v. p. 341 (1827); Less. N. Tabl. R. A., Mamm. p. 177 (1842) (*nec* Boddaert).
- Cerophorus (Cervicapra) grisea*, Blainv. Bull. Soc. Philom. 1816, p. 75.
- Oreotragus griseus*, Gray, List Mamm. B. M. p. 164 (1843).
- Antilope rubro-albescens*, Desmoul. Dict. Class. d'H. N. i. p. 446 (1822).

VERNACULAR NAMES:—*Grysbok* of Dutch and English Cape Colonists; *Sash-lungwan* of Matabilis; *Teemba* of Makalakas (*Selous*); *Cassenja* at Senna and Tette (*Peters*).

Height about 22–23 inches. Fur long and coarse, of a deep rich red colour profusely mixed with pure white hairs, whence the name “Grys” or Grey-buck. Under surface paler, but not white. Crown frequently with a black crescentic mark running round it, as in the Steinbok*. Ears very large,

* Besides the normally coloured specimens of Steinbok and Grysbok found so commonly in various parts of the Cape Colony, there occasionally occur pale-coloured, more or less albino, examples to which the names “Bleekbok” and “Vlackte-Steenbok” have been applied by the Dutch.

On such albinistic individuals the following synonymy rests, but whether the names really belong to the Steinbok or to the Grysbok, or some to one and some to the other, it is quite impossible and of little importance now to determine:—

- Antilope tragulus pallida*, Licht. Mag. nat. Freund. vi. p. 177 (1814); Forst. Deser. Anim. p. 376 (1844).
- Antilope pallida*, H. Sm. Griff. An. K. iv. p. 251, v. p. 342 (1827).
- Antilope pediotragus*, Afzel. N. Act. Ups. vii. pp. 260 & 264 (1815); Goldf. Schr. Säug. v. p. 1236 (1818); Smuts, En. Mamm. Cap. p. 84 (1832); Gerv. Diet. Sci. Nat. Supp. i. p. 262 (1840); Less. N. Tabl. R. A., Mamm. p. 177 (1842).
- Tragulus pediotragus*, A. Sm. S. Afr. Quart. J. ii. p. 213 (1834).
- Antilope rufescens*, H. Sm. Griff. An. K. iv. p. 249, v. p. 341 (1827); Less. N. Tabl. R. A., Mamm. p. 177 (1842); Schinz, Syn. Mamm. ii. p. 412 (1845).
- Calotragus melanotis pallida*, Gray, Knowsl. Men. p. 7 (1850); id. Cat. Ung. B. M. p. 72 (1852).
- Calotragus rufescens*, Temm. Esq. Zool. Guin. p. 192 (1853).
- Pediotragus rufescens*, Jent. Cat. Mamm. Leyd. Mus. (Mus. Pays-Bas, xi.) p. 165 (1892).

their backs grey. Limbs red. Accessory hoofs present, but very small, far smaller than in the Oribis. Tail very short, not blackened at its tip.

Skull and horns very like those of a Steinbok, but the nasal bones seem to be shorter, and the premaxillæ do not reach so far backwards. A good adult male skull of this species is, however, a desideratum: we have only been able to examine immature specimens or those deteriorated by confinement.

Hab. South Africa north to the Zambesi and Mozambique.

The Forsters, who visited the Cape in 1775 during their voyage round the world along with the great circumnavigator Cook, furnished Buffon with notices respecting many of the Antelopes which at that time were met with even in the immediate vicinity of Cape Town. Amongst these was the present species, which was accordingly described by Buffon, in the Supplement to his 'Histoire Naturelle des Animaux Quadrupèdes,' as the Grysbok or "Chèvre-gris." About the same period as the Forsters the learned Swedish naturalist Thunberg visited the Cape, and made himself acquainted with this and the other Antelopes of that district. In an article subsequently published by the Academy of St. Petersburg on the Mammals met with during his stay in South Africa, Thunberg named the Grysbok *Antilope melanotis*, and his specific name has usually been adopted for this species, though a subsequently given term *grisea* of G. Cuvier has also been applied to it.

In his 'Darstellung neuer oder wenig bekannter Säugethiere,' Lichtenstein has given coloured figures of both sexes of this Antelope from specimens in the Berlin Museum, probably procured by himself. In the days of Lichtenstein (1803-06) the Grysbok was to be found in all the middle and western districts of the Cape Colony amongst the hills, and, according to him, was particularly esteemed as game on account of its tender and delicate flesh.

Harris, in his great work on the 'Game Animals of South Africa,' has figured the Grysbok on his 26th plate, along with the Bushbok and the Blaauwbok; he mentions it as, in his time (1836-37), common in the Colony "among the wooded tracts which skirt the coasts." Describing his hunt with a party of Boers, residing not far from the banks of the Knysna, who had given him a day's shooting over their best preserves, he speaks of "proteas and large plots of scarlet geraniums, interspersed with patches of purple heath," as being the "favourite harbour of the roan Grysbok," and gives an account of

its pursuit as follows:—"Squatted like a hare upon its snug form, this beautiful little animal is rarely to be dislodged until well nigh trodden upon; but the dogs have pushed one out of that bed of fern, and are hunting it directly towards us. Returning again and again upon its old track, it bounds now over the head of the clustering heather, now doubles round the corner of a bush, and now, darting aside into the narrow footpath by which we are advancing, stands a moment with averted head to listen for its pursuers. Finding them close upon its heels, away it flies again, and making a desperate plunge into the heart of a thick shrub, vainly hopes that it may have found an asylum. But thine enemies have again ferreted thee out, cunning one! and disabled by a stray buck-shot from the *roer* of that ruthless Hollander, thou art circling round with dizzy brain and drooping head in quest of a corner wherein thou mayst lie down to die. Alas! Mynheer's rude hand has seized thee, innocent! and whilst he is fumbling for a knife wherewith to terminate thy helpless struggles, who that hears thy plaintive cries, like those of a new-born babe, or witnesses the infantine simplicity expressed in thy large melting black eye, brimful of dewy tears, can fail inwardly to curse his barbarity?"

In 1861 Mr. E. L. Layard describes the Grysbok as still found in some abundance at the foot of Table Mountain and on the Lion's Hill in the immediate vicinity of Cape Town, though we are somewhat doubtful whether that is the case at the present time.

Messrs. Nicolls and Eglington speak of the Grysbok as being mostly found in the eastern districts of the Colony and on the borders of Natal. Its habits, they state, are solitary and almost identical with those of the Steinbok (*R. campestris*), except that it invariably frequents hilly, broken, and stony country in preference to open flats. Its flesh, they add, is not particularly good. As regards its range farther north, Mr. Selous tells us that beyond the Limpopo the Grysbok is only met with in certain hilly districts of the more easterly portions of the interior. In Matabeleland it is very scarce, but in all the hilly country of the Victoria Falls and throughout Mashonaland down to the Zambesi it is fairly numerous. Mr. Selous also speaks of it as being met with in the South African territory north of the Zambesi as far as he penetrated; and Peters has recorded its presence, not uncommonly, in the plains of Sena, Tette, and Macanga in Mozambique up to 16° N. latitude.

The Grysbok is included by Matschie in his recently published work on the Mammals of German East Africa, but only upon the ground that it will probably be found to occur there. We are not able to confirm this statement, having never seen specimens of the Grysbok from any locality so far north.

The Grysbok has been occasionally brought alive to Europe, but does not appear to do well in captivity. The first example recorded in the Zoological Society's register is a female presented by Sir George Grey in 1861. A second specimen was obtained by purchase in 1864, and a third in 1869. In May of the present year a female specimen was presented to the Society by Mr. J. E. Matcham, of Port Elizabeth, but did not live long in the Gardens. From this animal the figure of the Grysbok now given (Plate XXVII. fig. 2) has been coloured by Mr. Smit, though the plate was originally taken by the same artist from a water-colour drawing prepared by Wolf, under the direction of the late Sir Victor Brooke, from some other specimen. This drawing, along with many other original sketches of Wolf's, is now in the possession of Sir Douglas Brooke.

The National Collection is not well provided with examples of this Antelope. Besides a pair collected by Burchell in 1814 there are in the series only some skulls and skeletons of somewhat doubtful authority. Good fresh specimens of both sexes of the Grysbok, accompanied by their skulls, would therefore form a valuable acquisition to the British Museum.

December, 1895.

47. THE STEINBOK.

RAPHICERUS CAMPESTRIS (THUNB.).

[PLATE XXVII. FIG. 1.]

- Capra grimmia*, Thunb. Resa, ii. p. 8 (1789); id. Engl. Transl. ii. p. 7 (1793) (*nec* Linn.) (Cape Town).
- Antilope campestris*, Thunb. Mém. Ac. Pétersb. iii. p. 313 (1811).
- Calotragus campestris*, Gray, Cat. Ung. B. M. p. 71 (1852); Layard, Cat. S. Afr. Mus. p. 68 (1861); Gerr. Cat. Bones Mamm. B. M. p. 235 (1862).
- Pediotragus campestris*, Gray, Cat. Rum. B. M. p. 31 (1872); id. Hand-l. Rum. B. M. p. 100 (1873).
- Nanotragus campestris*, Nicolls & Egl. Sportsm. S. Afr. p. 24, pl. ii. fig. 6 (head) (1892); Lyd. Horns and Hoofs, p. 217 (1893); Jackson, Badm. Big Game Shooting, i. pp. 285 & 301 (1894) (E. Africa); Lorenz, Ann. Mus. Wien, ix. p. 60 (1895).
- Neotragus campestris*, Rendall, P. Z. S. 1895, p. 361.
- Antilope tragulus*, Licht. Mag. nat. Freund. vi. p. 176 (1814); Goldf. Schr. Säug. v. p. 1234 (1818); Schinz, Cuv. Thierr. i. p. 392 (1821); Desm. Mamm. ii. p. 458 (1822); Licht. Darst. Säug. pl. xiv. (♂ ♀) (1828); J. B. Fisch. Syn. Mamm. p. 464 (1829); Smuts, Enum. Mamm. Cap. p. 81 (1832); Less. Compl. Buff. x. p. 291 (1836); Oken, Allg. Naturg. vii. p. 1362 (1838); Laurill. Dict. Univ. d'H. N. i. p. 622 (1839); Gerv. Dict. Sci. Nat. Suppl. i. p. 262 (1840); Less. N. Tabl. R. A., Mamm. p. 177 (1842); Forst. Descr. Anim. pp. 36 & 374 (1844); Wagn. Schr. Säug. Suppl. iv. p. 436 (1844), v. p. 410 (1855); Schinz, Syn. Mamm. ii. p. 411 (1845); Peters, Reise Mossamb., Säug. p. 187 (1852) (Inhambane); Gieb. Säug. p. 318 (1854); Huet, Bull. Soc. Acclim. 1887, p. 88.
- Tragelaphus tragulus*, Rüpp. Verz. Senck. Mus. p. 37 (1842).
- Oreotragus tragulus*, Gray, List Mamm. B. M. p. 164 (1843); id. List Ost. B. M. p. 146 (1847).

- Calotragus tragulus*, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 192 (1846); *id.* Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 144; Reprint, p. 68 (1848); *Gray*, Ann. Mag. N. H. (1) xviii. p. 232 (1846); *id.* Knowsl. Men. p. 7 (1850); *id.* P. Z. S. 1850, p. 48; *id.* Ann. Mag. N. H. (2) viii. p. 136 (1851); *Temm.* Esq. Zool. Guin. p. 192 (1853); *Blyth*, Cat. Mamm. As. Soc. p. 166 (1863); *Drumm.* Large Game S. Afr. pp. 395 & 426 (1875) (Zululand).
- Pediotragus tragulus*, Fitz. SB. Ak. Wien, lix. pt. 1, p. 163 (1869); *Jent.* N. L. M. ix. p. 173 (1887) (Mossamedes); *id.* Cat. Ost. Leyd. Mus. (Mus. Pays-Bas, ix.) p. 134 (1887); *id.* Cat. Mamm. Leyd. Mus. (op. cit. xi.) p. 165 (1892); *id.* N. L. M. xv. p. 265 (1893) (Cunene R.).
- Nanotragus tragulus*, Brooke, P. Z. S. 1872, pp. 642 & 874; *Buckley*, P. Z. S. 1876, p. 283 (distribution); *Bocage*, P. Z. S. 1878, p. 742; *Selous*, P. Z. S. 1881, p. 762; *id.* Hunt. Wand. S. Afr. p. 222 (1881); *Bryden*, Kloof and Karroo, p. 300 (1889); *Hunter*, in Willoughby's E. Africa, p. 290 (1889); *Crawshay*, P. Z. S. 1890, p. 654 (Nyasa); *W. Sc.* Cat. Mamm. Calc. Mus. ii. p. 166 (1891); *Flow. & Lyd.* Mamm. p. 339 (1891); *Lugarđ*, E. Africa, i. p. 540 (1893).
- Neotragus tragulus*, *Sc.* List Anim. Zool. Soc. (8) p. 145 (1883); *id.* P. Z. S. 1861, p. 209.
- Antilope tragulus rupestris*, *Licht.* Mag. nat. Freund. vi. p. 177 (1814); *Forst.* Descr. Anim. p. 376 (1844).
- Antilope rupestris*, *Burch.* Travels, i. pp. 202, 281 (1822), ii. p. 15 (1824); *H. Sm.* Griff. An. K. iv. p. 248, v. p. 340 (1827); *Schinz*, Syn. Mamm. ii. p. 412 (1845).
- Tragulus rupestris*, *A. Sm.* S. Afr. Quart. J. ii. p. 212 (1834); *Harris*, Wild An. S. Afr. pl. xxv. fig. 2 (♂) (1840).
- Antilope capensis* (misprint for *campestris*), *Afzel.* N. Act. Ups. vii. p. 254 (1815).
- Antilope ibex*, *Afzel.* N. Act. Ups. vii. p. 263 (1815); *Less.* Man. Mamm. p. 376 (1827).
- Cerophorus (Cervicapra) stenbock*, *Blainv.* Bull. Soc. Philom. 1816, p. 75.
- Cerophorus (Cervicapra) acuticornis*, *Blainv.* Bull. Soc. Philom. 1816, pp. 75 & 79; *id.* Journ. Phys., Aug. 1818, pl. fig. 8 (skull); *id.* Oken's Isis, 1819, ii. p. 1095, pl. xii. fig. 8 (skull).
- Antilope acuticornis*, *Desm.* N. Dict. d'H. N. (2) ii. p. 193 (1816); *Schinz*, Cuv. Thierr. i. p. 395 (1821); *Desm.* Mamm. ii. p. 460 (1822); *Less.* Man. Mamm. p. 377 (1827); *Flow. & Gars.* Cat. Ost. Coll. Surg. ii. p. 275 (1884).
- Antilope (Raphicerus) acuticornis*, *H. Sm.* Griff. An. K. iv. p. 252, v. p. 342 (1827); *Less.* H. N. Mamm. (Compl. Buff.) x. p. 292 (1836); *Gerv.* Dict. Sci. Nat. Suppl. i. p. 262 (1840); *Less.* N. Tabl. R. A., Mamm. p. 177 (1842).
- Antilope fulvo-rubescens*, *Desmoul.* Dict. Class. d'H. N. i. p. 446 (1822).
- Antilope (Raphicerus) subulata*, *H. Sm.* Griff. An. K. iv. p. 253 (fig. horns), v. p. 342

(1827); Less. Compl. Buff. x. p. 292 (1836); Gerv. Dict. Sci. Nat. Suppl. i. p. 262 (1840); Less. N. Tabl. R. A., Mamm. p. 177 (1842).

Pediotragus tragulus grayi, Fitz. SB. Ak. Wien, lix. pt. 1, p. 163 (1869).

VERNACULAR NAMES :—*Steinbok* of Dutch and English Colonists; *Iquia* of Kaffirs (*Drummond*); *Ingnweena* or *Ungwena* of Matabilis; *Puruhuru* of Bechuanas; *Ee-peu-nee* of Makalakas; *Kahu* of Masubias; *Kimba* of Batongas; *Gai-ee* of Masaras (*Selous*); *Shipeni* of Transvaal Shangeans; *Njena* of Swazis (*Rendall*); *Ishah* of E. African Swahilis (*Hunter*).

Size small. General colour bright sandy rufous, richer on the head. Top of muzzle and a horseshoe-shaped marking on the crown generally brown, but these marks are by no means constant. A white supraorbital stripe, much as in the Oribi. No auricular gland. No knee-tufts nor false hoofs present. Tail short, coloured above like the back, below whitish, no black tip.

Skull stoutly built, its upper surface peculiarly roughened and ridged. Premaxillæ reaching to, and articulating with, the nasals.

Horns, in proportion to the size of the animal, longer than in the Oribis, very slender, smooth, and practically unridged throughout. Their direction is nearly vertical, and they are slightly curved forwards.

Dimensions, ♂ :—Height at withers 19·5 inches, length of hind foot 9·7, ear 4·2.

Skull: basal length 4·86 inches, greatest breadth 2·68, muzzle to orbit 2·6.

Hab. South Africa, from the Cape to the Zambesi and on the west to the Cunene.

The Steinbok became known to the Forsters and Thunberg through the Dutch settlers at the Cape at about the same date as the Grysbok, and in 1811 received the scientific name *Antilope campestris* from the latter author in his memoir, published by the Academy of Sciences of St. Petersburg, to which we have already alluded. Three years later Lichtenstein in his article upon the species of Antilope published in the Magazine of the "Gesellschaft naturforschender Freunde" of Berlin, proposed the name *Antilope tragulus*, but under this designation united both the Steinbok and the Grysbok, as well as the pale variety of the latter species which the Dutch settlers called the "Bleekbok." In uniting the Steinbok and Grysbok under one head Lichtenstein was clearly in error, the structural difference presented by the

absence of accessory hoofs, as well as the divergence in the colour of the fur, sufficiently distinguishing the present species from the Grysbok. Lichtenstein no doubt derived his ideas upon this subject from Forster's manuscripts, as the same view is taken in Forster's posthumous work 'Descriptiones Animalium,' when it was tardily published in 1844. Under these circumstances there can be no doubt, we think, that "*campestris*" is the proper specific term to be employed for the present species.

In an article upon the Ruminants published by Blainville in the 'Bulletin of the Société Philomathique' for 1816 and subsequently enlarged in the 'Journal de Physique,' that author described and figured the skull of a specimen which he had observed in the Museum of the Royal College of Surgeons in London and called it *Antilope acuticornis*. On Blainville's description and figure of this skull Hamilton Smith, in the fifth volume of Griffith's Cuvier, subsequently established a new genus of Antelopes, "*Raphicerus*." Whoever consults this figure and compares it with a skull of the Steinbok will inevitably come to the conclusion that the figure represents the skull of that animal. We have accordingly added *Antilope acuticornis* of Blainville, and the further references to it subsequently published, to the synonyms of the Steinbok, and under these circumstances have thought it necessary to give the generic term *Raphicerus* precedence as the generic name of the present group over the better known names *Calotragus* of Sundevall and *Pediotragus* of Fitzinger.

It would seem also that *Antilope subulata* of Hamilton Smith, given in the same work as a second species of *Raphicerus*, and taken from another pair of horns, also then in the Museum of the Royal College of Surgeons, may be safely referred to the present species.

Captain Harris, in his 'Portraits of the Game and Wild Animals of South Africa,' published in 1840, figures the Steen-bok, as he calls it, along with the Rhebok in his 25th plate, and speaks of it as "common in the Colony."

In 1861, when Mr. Layard prepared his 'Catalogue of the Mammals in the Collection of the South African Museum,' the Steinbok was spoken of as then common throughout the Colony. It is partial, Mr. Layard tells us, "to flat plains covered with bushes" and "selects a spot, in the immediate neighbourhood of which it may constantly be found. When a Steinbok is killed off, a few days suffice to reproduce a new occupant for the favoured spot."

Messrs. Nicolls and Eglington, in their 'Sportsman in South Africa' (one of our most recent authorities on the subject), speak of the Steinbuck as the "most common and widely distributed Antelope of South Africa from Cape Town to the Zambesi, frequenting the open flats either singly or in pairs." As the hares of the Cape afford little or no sport for coursing, the Steinbok has been employed as their substitute. These authors give us the following notes upon this subject:—"At Kimberley, in Griqualand West, a regular coursing club was organized shortly after the discovery of the diamond fields, and it has been carried on ever since with the greatest success, the colonists being just as much interested in the result of the annual Club Cup as sportsmen are in England over the Waterloo Cup, large sums of money changing hands at the meetings. It requires, however, a really fast powerful greyhound with a lot of bottom to run up on a Steinbuck. As nearly all proprietors strictly preserve the species in Griqualand West, they are there very numerous, perhaps even more so than in the native territories further north. This Antelope commences feeding about sundown, and continues its wanderings during the night, at sunrise retiring under cover of some low thick clump of bush or patch of long grass, where, unless disturbed, it passes the entire day in concealment. As it usually lies asleep during the great heat of the sun, it can then be easily walked up to and readily disposed of with a charge of buckshot. When severely wounded or hard pressed by dogs, it will often take refuge in the burrow of the Aard-vark (*Oryctoropus*). At all times the Steinbuck is rather a difficult shot with the rifle; but if the half-hour before dusk or sunrise be chosen, some pretty rifle-shooting may be obtained, and a quiet stalk at such times through a *veldt* which they frequent will often well repay the sportsman when larger antelopes are not at hand. The wind has no influence with regard to the direction in which it goes, as it will run either up or down wind. It does not frequent very hilly or thick bush country, and is capable of existing for long periods without water. The Steinbuck is very easily tamed, but invariably becomes blind when kept in captivity for any length of time. The flesh is excellent."

Mr. Selous, in his valuable notes on South Central African Antelopes read before the Zoological Society of London in June 1881, gives us a list of the various native names of this little Antelope, and says that it is spread all over South Africa from the Cape to the Zambesi, except in the mountainous

districts and in tracts of very thick bush. North of the Zambesi Mr. Selous did not meet with any Steinboks. But it is certain from the researches of Mr. Crawshay in Nyasaland, of Herr Oscar Neumann in German East Africa, and Mr. Jackson and other authorities in British East Africa, that the Steinbok, or a very closely allied representative, is found, in suitable localities, nearly up to the Tana River. For the present, however, we shall follow Herr Matschie's views in considering the East-African form *Raphicerus neumanni* as possibly belonging to a distinct species.

From the western frontiers of the Cape Colony the Steinbok, or a very nearly allied form, appears to extend up to the Cunene River in the interior of Angola, whence specimens, referred by M. Du Bocage, with some hesitation, to the Steinbok, were forwarded in 1874 to the Lisbon Museum by M. d'Anchieta.

The only example of the Steinbok registered in the Zoological Society's Catalogues is a female specimen presented by Sir George Grey, K.C.B., then Governor of the Cape Colony, in 1861. We are not aware of any other examples of this Antelope having been brought to Europe.

Our figure of this species (Plate XXVII. fig. 1) was put on the stone by Mr. Smit from a drawing by Wolf prepared under the directions of the late Sir Victor Brooke. The drawing is now in Sir Douglas Brooke's possession. We regret to be unable to state from what specimen it was taken.

The National Collection contains a pair of mounted specimens of this Antelope obtained by Wahlberg in Cafferland, and several skins without exact localities. A skull from Port Elizabeth was obtained by Mr. F. C. Selous. Further specimens of both sexes with exact dates and localities would be highly appreciated.

December, 1895.

48. NEUMANN'S STEINBOK.

RAPHICERUS NEUMANNI (MATSCH.).

Nanotragus tragulus, Hunter, in Willoughby's E. Afr. p. 290 (1889) (?).*Nanotragus campestris*, Jackson, Big Game Shooting, p. 285 (1894) (?).*Pediotragus neumanni*, Matsch. SB. nat. Freund. 1894, p. 122 (N. Ugogo); id. Thierw. Ost-Afr. Säugeth. p. 120.VERNACULAR NAME:—*Dondoro* in Ugogo (*Neumann*).Similar to *R. campestris*, but without any black colour on the head.*Hab.* East Africa, from the Tana to Nyasaland.

As already stated in our remarks on the preceding species, we are by no means satisfied as to the specific difference of the Steinbok of East Africa from the corresponding form met with south of the Zambesi. But until further evidence on this point is available we will not dissent from the views of Herr Matschie, who has decided that the East-African form is distinct, and has proposed to call it after Herr Oscar Neumann, to whom the Berlin Museum is indebted for its specimens.

Herr Neumann, who has recently returned from a most successful expedition, in which he traversed unexplored portions of German East Africa up to Lake Victoria and returned through British territory, met with this Antelope, as he kindly informs us, in Northern Ugogo, Iranga, Usandawe, and near Mount Gurui. He describes its habits as almost like those of *Madoqua kirki* and *Cephalophus harveyi*, with which it is often found in company in the thinly-bushed districts. But it also occasionally goes out into the open prairies, and then lies concealed in the tall grasses like the Reed-bucks. Its Swahili name is given as 'Dondoro.'

In his appendix to Sir John Willoughby's 'East Africa and its Big Game,'

Mr. Hunter includes the "Steinbok" amongst the Antelopes met with in the plains round Kilimanjaro, where, he says, it is very often seen in the long grass. Mr. F. J. Jackson also speaks of the "Steinbok" in his account of the Antelopes of the same district. He says that its Swahili name is "Ishah," but that it is better known to some sportsmen as the Grass-Antelope, and continues as follows:—"It is more plentiful at Kilimanjaro than elsewhere, though I have seen a good many all along the caravan-route, wherever it passes through open grass country, between Mombasa and Nzoï in Ukambani. This little Antelope is the smallest of those found in the open plains. It is a stupid little beast, and requires very little stalking to outwit it. It will often stand gazing at anyone who approaches, and allow him to walk up to within 100 yards of it."

If it should turn out that *R. neumanni* is a good species, it is probable that that Steinbok or Ishah of British East Africa, referred to by these two distinguished sportsmen, will be found to belong to it.

In his 'Field-notes on the Antelopes of Nyasaland,' published in 1890, Mr. R. Crawshay includes the Steinbuck. But he had only procured one specimen, and admits that he was uncertain as to its identification.

As will be seen by this and by previous remarks that we have made, our knowledge of the Antelopes of East Africa is still far from complete, and there is a large opportunity for further discoveries on this subject by those who will kindly assist us with notes and specimens.

The British Museum contains two skulls, probably of this species, obtained between Mombasa and Kilimanjaro by Mr. H. C. V. Hunter.

December, 1895.

GENUS IV. NESOTRAGUS.

Type.

Nesotragus, Von Düb. Öfv. K. Vet.-Ak. Förh. iii. 1846, p. 221 (1847) . N. MOSCHATUS.

No auricular glands or accessory hoofs.

Skull with very large anteorbital fossæ, sharply defined above and below, almost as in *Ourebia*; anteorbital vacuity present on each side of the hinder end of the nasal bones; on the sides of the muzzle a long oval vacuity present on the suture between the premaxillary and maxillary bones; nasal opening oval, its sides bowed outwards as usual.

Horns half or more the basal length of the skull, strongly slanted back almost to the continuation line of the facial profile; strongly, but finely, closely ridged for their basal half or three-fourths.

Distribution. East Africa.

To this genus there belong two closely allied species, which may be distinguished as follows:—

- a.* Horns small and slender. Colour fawn-grey. Tip of tail like back.
49. *N. moschatus*.
- b.* Horns longer and thicker. Colour more rufous. Tail blackish above.
50. *N. livingstonianus*.



Wolf del. Smit lith.

The Zanzibar Antelope.
NESOTRAGUS MOSCHATUS.

Hartart imp.

Published by R.H. Porter.

49. THE ZANZIBAR ANTELOPE.

NESOTRAGUS MOSCHATUS, VON DÜB.

[PLATE XXVIII.]

Nesotragus moschatus, Von Düben, Öfv. K. Vet.-Ak. Förh. iii. 1846, p. 221 (1847) (French Is., off Zanzibar); Sund. Pecora, K. Vet.-Ak. Handl. 1845, p. 322 (1847); id. Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 314; Reprint, p. 134 (1848); Gray, Knowsl. Men. p. 8 (1850); id. P. Z. S. 1850, p. 119; id. Ann. Mag. N. H. (2) viii. p. 137 (1851); id. Cat. Ung. B. M. p. 75 (1852); Temm. Esq. Zool. Guin. pp. 192, 209 (1853); Sci. P. Z. S. 1864, p. 101; Fitz. SB. Ak. Wien, lix. pt. 1, p. 164 (1869); Gray, Cat. Rum. B. M. p. 30 (1872); id. Hand-l. Rum. B. M. p. 99 (1873); Huet, Bull. Soc. Acclim. 1887, p. 49; Ward, Horn Meas. p. 80 (1892); Matsch. Thierw. Ost-Afr. Säugeth. p. 119.

Antelope moschata, Wagn. Schr. Säug., Suppl. v. p. 415 (1855).

Nanotragus moschatus, Brooke, P. Z. S. 1872, p. 642; Flow. & Lyd. Mamm. p. 339 (1891); Lyd. Horns and Hoofs, p. 217 (1893); True, P. U. S. Nat. Mus. xv. p. 478 (1892) (Kilimanjaro); Jackson, Badm. Big Game Shooting, i. pp. 285, 310 (1894).

Cephalophorus zanzibaricus, Layard, Cat. Mamm. S. Afr. Mus. p. 72 (1861).

Nesotragus kirchenpaueri, Pagenst. JB. Mus. Hamb. ii. p. 36 (1885) (Kilimanjaro).

VERNACULAR NAMES:—“*Grave-Island Gazelle*” of E.-African Sportsmen (*Jackson*); *Suni* of Kichagas of Kilimanjaro (*Abbott*); *Paa* of Swahilis (*Fischer*, teste *Matschie*).

Size small; height about 13 inches at withers. General colour dull, finely grizzled fawn-grey, with a tinge of rufous, which is especially strong on the face and sides of the neck. Top of nose with a brown patch. Throat pale rufous. Chin, belly, and inner sides of limbs white. Upper part of outer sides of limbs like flanks, lower part, from elbows and hocks downwards,

pale rufous; pasterns brown. Tail grizzled greyish above like the back, whitish below.

Skull with the bony palate ending, in the middle line, just in front of the level of the back of the last molar.

Dimensions of a good male example:—Basal length 4 inches, greatest breadth 2·3, muzzle to orbit 2·15.

Horns from $2\frac{1}{2}$ to 3 inches long, very slender, their circumference at their thickest part only about 1·4 inch.

Hab. Islets in Zanzibar Harbour and the coast-districts of the mainland from Kilimanjaro southwards to Mozambique.

The discovery of this little Antelope is due to the researches of the Swedish naturalist Baron von Düben, who described it in 1846 from specimens procured by himself at Zanzibar, and named it *Nesotragus moschatus*—“*Nesotragus*” from its supposed insular habitat, and “*moschatus*” from the musky smell of its facial glands. Little more was known of this species until 1861, when Mr. Layard described it as new under the name *Cephalophorus zanzibaricus* from specimens in the South-African Museum which he had himself obtained during the voyage of H.M.S. ‘Cantor’ on the island off Zanzibar used as a European burial-ground. According to what Mr. Layard was told the species had been introduced here by Col. Hamilton, and had multiplied so largely that sixteen were shot in an hour by a party of the ship’s officers. “The island was covered with low bush, out of which the men beat the Antelopes, which ran along the beach like rabbits. Their runs could be traced in all directions through the bushes.”

In 1864 Sclater recorded this Antelope among the mammals obtained by Capt. Speke during his celebrated expedition into East Africa. Speke’s specimen, an adult male, obtained at Zanzibar, is now in the gallery of the British Museum, and is, we believe, the original of Wolf’s water-colour drawing (now in the possession of Sir Douglas Brooke), whence Mr. Smit’s figure (Plate XXVIII.) was engraved under Sir Victor Brooke’s superintendence.

Sir John Kirk, so long known as H.B.M. Consul-General at Zanzibar, who furnished a set of skins and skulls of this Antelope to the National Collection, has most kindly supplied us with the following notes on it:—

“The small Antelope (*Nesotragus moschatus*) which you ask about was

common on two small coral islands that guard the entrances to the harbour of Zanzibar (which is situated on the land or western side of the island of that name) about 1866, when I first took up residence there. I never knew of it having been seen anywhere else, not even on the main island of Zanzibar. I have heard it said, however, on reliable authority that it has been met with on the continent; this, however, I cannot confirm from personal experience. To me, therefore, the little Antelope is known only on these two small islands that I have indicated. Both of them are made of coral-rock raised about 15 feet above sea-level. They are much eroded on the exposed sea face and on the surface, where the sharp angles of rock make progress most difficult and even dangerous. There is no fresh water on these islands, unless it be the little that gathers in the pot-holes, but these are generally deep with sharp edges, and out of reach of the *Nesotragus*, which for many months cannot get fresh water other than rain or dew on the leaves.

“These islands are covered with dense bush and tangled creepers, and the *Ipomœa pescaprae* and *Canavalia* bean form a green mat down to the water-edge. Elsewhere all is evergreen bush and trees; the only grass there has a wiry texture, and is never eaten. The *Nesotragus*, like so many other Antelopes, lives on leaves and twigs of trees and scrub, and this is probably why it is so difficult to keep in captivity. I made many attempts to rear young ones and send them to the Zoological Gardens, but failed. Only once was I able to keep one alive for any time by gradually accustoming it to eat native millet or sorghum.

“When first I went to Zanzibar there was no cultivation on either of these islands, but in time Bawe, the larger of the two, was planted with cocoanuts where there was sand. Two thirds of the island, however, were nothing but bare coral-rock, covered with tangled jungle, and useless for any purpose, and there the Antelope held its own, or rather just managed to resist extermination.

“On the other island, which was only used as a burial-place for Europeans, the Antelope was much more numerous. This island was nearly all bare rock, cut up with pot-holes, and covered with tangled vegetation; only at one point was there sand, and this was the spot converted into a cemetery.

“As Europeans began to arrive in Zanzibar it became a favourite afternoon’s amusement to go to this island to shoot pigeons; and then the Antelopes got reduced in numbers, and became very rare.

“For some years before I left it was seldom that a good head with horns, such as were common in former times, was ever secured, so that unless the *Nesotragus* has been preserved by the authorities I should think by this time it must be nearly extinct.

“The Antelope lives in the thick bush, it is seldom met with in the open spaces between the clumps of vegetation, and has to be shot as it darts from one bush to another.

“So far as I know, it has only one natural enemy on these little islands, namely, a python, which is often of a great size, and which can find little to live on here except these Antelopes and mice.”

In his volume on the Mammals of German East Africa, Herr Matschie records the occurrence of the Zanzibar Antelope in several localities on the continent. Stuhlmann met with it in Ukama and Usaramo, Fischer at Gross-Aruscha, and Böhmer near Mpapwa.

The German explorers say that this Antelope feeds ordinarily on fresh leaves, but accustoms itself to grass and bananas in captivity. Gravid females were found in August and October, so that it seems to breed twice a year. Fischer found it common everywhere during his journeys in German East Africa. It is easily to be observed, early in the morning and in the evening, if the sportsman hides away among the bushes, as at these times it is on the feed. On being alarmed it utters a peculiar cry.

In British East Africa Mr. Jackson, in his volume of the Badminton Library Series on “Big Game Shooting,” tells us that the “Grave-Island Gazelle,” as the British sportsmen call this species, is found in the thick bush behind Frere-town, near Mombasa, and also in the Duruma country. Like the “Paa” (*Madoqua kirki*) it is a bush-feeder, and requires little or no water.

Dr. W. L. Abbott, as recorded by Mr. True, obtained a young male of this species at a height of about 6000 feet on Kilimanjaro, where it was brought to him alive by the natives.

There are no examples of this species from the mainland in the British Museum.

December, 1895.

50. LIVINGSTONE'S ANTELOPE.

NESOTRAGUS LIVINGSTONIANUS, KIRK.

-
- Antilope moschata*, Peters, Reise Mossamb., Säug. p. 189 (1852) (*nec* v. Düben) (Tette).
Nesotragus moschatus, Jent. Cat. Ost. Leyd. Mus. (Mus. Pays-Bas, ix.) p. 134 (1887);
 id. Cat. Mamm. Leyd. Mus. (op. cit. xi.) p. 165 (1892).
Nesotragus livingstonianus, Kirk, P. Z. S. 1864, p. 657 (Shupanga); Gray, Cat. Rum.
 B. M. p. 31 (1872); id. Hand-l. Rum. B. M. p. 100 (1873).
Nanotragus livingstonianus, Thos. P. Z. S. 1893, p. 237 (fig. skull) (Umkozi R.,
 Zululand).

VERNACULAR NAMES:—*Rumpsa* at Tette; *Injasorro* in Mozambique (*Peters*); *Inhlangana* of Zulus (*A. H. Neumann*).

Size larger than *N. moschatus*, and in other respects a finer and more richly coloured animal. General colour deep rufous, verging on chestnut; flanks and limbs more fawn-coloured than in *N. moschatus*. Top of tail darker than back, approaching black; its underside white.

Skull with the posterior palate produced backwards about a quarter of an inch behind the level of the back of the last molar.

Dimensions of a fine male example:—Basal length 4·4 inches, greatest breadth 2·45, muzzle to orbit 2·35.

Horns thick and heavy, especially in southern specimens, strongly but closely ridged to within an inch of their tips. In Mr. Neumann's fine Zululand specimen there are no less than 25 rings to a horn-length of 3·3 in., and in the same example the circumference of the horns is about 1·7 in.

Hab. South-east Africa from Mozambique to Zululand.

In the Portugese territory of Mozambique, and so on to Zululand, we find

the place of the Zanzibar Antelope occupied by a nearly allied but larger species, with much thicker and more strongly ridged horns. This is Livingstone's Antelope, discovered by Sir John Kirk during his companionship with the celebrated traveller after whom he named it. Sir John Kirk obtained his specimens at Shupanga and Lupata on the Zambesi, where, he says, it is called "Ramsa" or "Lumdsa," and described them in an article on the Mammals of Zambesia, published in the Zoological Society's 'Proceedings' for 1864. In habits, he tells us, Livingstone's Antelope much resembles its ally of Zanzibar; it frequents dense underwood, and lives in pairs. On being started it runs off quickly, not unlike a hare, and conceals itself in some tuft of grass or small bush.

It is probable, as suggested by Sir John Kirk, that the *Antelope moschata* of Peters, met with by that distinguished naturalist at Tette on the Zambesi, should be referred to the present species.

Little more was known of this Antelope until 1893, when the British Museum received from the well-known African sportsman Mr. A. H. Neumann specimens of a small Antelope obtained in Northern Zululand in April of the previous year. On comparing these with the scalp and skull on which *Nesotragus livingstonianus* had been based by Sir John Kirk, Thomas came to the conclusion that they belonged to the same species. Although the horns of Mr. Neumann's specimen were stouter and heavier, the differences appeared to be such as might be attributable to age.

In a letter published in the 'Field' newspaper (of September 3rd, 1892) Mr. Neumann has given the following particulars respecting this Antelope:—

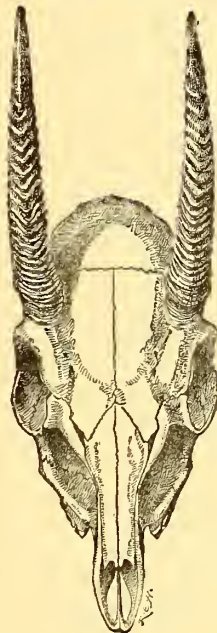
"I have known of the existence of this Antelope in South-eastern Africa for many years, but have only lately had an opportunity of obtaining a specimen. The native name for it is 'Inhlengana.' It is barely larger than the tiny Blue-buck of S. Africa, but carries very much larger horns in proportion to its size. The specimen sent is an old male. The white hairs on the head are said to be from age, and not general to the species. This one was killed in North-eastern Zululand, which district seems to be the southerly limit of its range. It frequents the densely bushed parts of the low flats between the coast and the Bombo range. How far north it ranges I cannot say, but I first heard of it in the neighbourhood of the Lower Limpopo and Komati rivers.

"It has a very strong musky scent, the source of which appears to be the

large glands (the hollows for which are conspicuous in the skull) below the eyes, and of which the openings appear in the skin. So powerful is this odour that it may often be perceived pervading the bushes that the bucks frequent. Even the flesh (of the male, at all events) is so highly flavoured by this peculiar essence as to be barely eatable.

“The animal from which this skull and skin were taken was killed by a native, and spoilt as a specimen for mounting before I got it; hence the skin

Fig. 25.



Skull of *Nesotragus livingstonianus*, ♂.
(P. Z. S. 1893, p. 238.)

is sent merely for purposes of identification. It would not be difficult, however, to procure others, as they seem fairly plentiful in parts.”

Mr. H. M. Barber, F.R.G.S., a well-known authority on the game-animals of South-east Africa, has lately forwarded to Sclater a description of an Antelope and a photograph of its head, which are, no doubt, also referable to the present species. Mr. Barber states that the Antelope in question is found in the neighbourhood of Delagoa Bay, between the Tembe and Maputa Rivers, and is of a mouse-colour with a reddish head, standing about a foot

in height. He describes its habits as follows:—"It frequents reeds and low-lying scrub along the river banks, and is also found amongst the bracken which constitutes the undergrowth of the forests in those parts. The annulations of the horns of the living bucks are often completely filled up by bark of the trees which the buck is in the habit of rubbing up against. This gives the horns a peculiar yellowish-brown appearance."

Our illustration of the skull of this Antelope (fig. 25) has been kindly lent to us by the Council of the Zoological Society of London.

It may be remarked that the most southern (Zululand) examples of this Antelope seem to exceed those of the Zambesi in size and richness of colour. It is therefore possible that intermediate specimens, connecting the Zambesi form with the *N. moschatus* of the north, may hereafter be found in the intervening districts, but until this occurs it is better to recognize the two species as distinct.

December, 1895.

GENUS V. NEOTRAGUS.

	Type.
<i>Neotragus</i> , H. Sm. Griff. An. K. v. p. 349 (1827)	N. PYGMÆUS.
<i>Tragulus</i> , Ogilb. P. Z. S. 1836, p. 138 (<i>nec</i> Pall.)	N. PYGMÆUS.
<i>Minytragus</i> , Glog. Naturg. p. 154 (1841)	N. PYGMÆUS.
<i>Spinigera</i> , Less. N. Tabl. R. A., Mamm. p. 178 (1842)	N. PYGMÆUS.
<i>Nanotragus</i> , Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 191 (1846) .	N. PYGMÆUS.

Size very small. No auricular glands nor accessory hoofs. Tail of median length.

Skull with its muzzle unusually well ossified, so that there are no ante-orbital vacuities, nor extra vacuities in the maxillo-premaxillary suture. Anteorbital fossæ very large. Nasal opening a vertical oblong, its sides not bowed outwards.

Horns excessively small, their length less than the diameter of the orbit; laid right back on the sides of the crown in the direction of the facial profile.

Distribution. West Africa.

Only one species of this genus is known.



Wolfe del. Sin.

The Royal Antelope.
NEOTRAGUS PYGMÆUS.

Hanhart imp.

Published by R.H. Porter.

51. THE ROYAL ANTELOPE.

NEOTRAGUS PYGMÆUS (LINN.).

[PLATE XXIX.]

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- Cervus pusillus guineensis*, Seba, Thesaurus, i. p. 10, pl. xliii. fig. 3 (1734).
Capra pygmæa, Linn. Syst. Nat. (10) i. p. 69 (1758).
Moschus pygmæus, Linn. Syst. Nat. (12) i. p. 92 (1766).
Antilope pygmæa, Pall. Spic. Zool. xii. p. 18 (1777); Zimm. Spec. Zool. geogr. p. 540 (1777); id. Geogr. Gesch. ii. p. 112 (1780); Herm. Tabl. Affin. Anim. p. 107 (1783); Gmel. Linn. S. N. i. p. 191 (1788); Kerr, Linn. An. K. p. 318 (1792); Donnd. Zool. Beytr. i. p. 642 (1792); Link, Beytr. Nat. ii. p. 99 (1795); Bechst. Allgem. Uebers. vierf. Thiere, ii. p. 642 (1800); Shaw, Gen. Zool. ii. pt. 2, p. 326 (1801); Desm. N. Dict. d'H. N. (1) x. p. 251 (1803), xxiv. Tabl. p. 32 (1804); G. Cuv. Dict. Sci. Nat. ii. p. 241 (1804); G. Fisch. Zoogn. iii. p. 414 (1814); Afzel. N. Act. Ups. vii. p. 220 (1815); Desm. N. Dict. d'H. N. (2) ii. p. 192 (1816); Goldf. Schr. Säug. v. p. 1237 (1818); Desm. Mamm. ii. p. 465 (1822); Desmoul. Dict. Class. i. p. 445 (1822); Less. Man. Mamm. p. 379 (1827); J. B. Fisch. Syn. Mamm. p. 469 (1829); Oken, Allg. Naturg. vii. p. 1360 (1838).
Tragulus pygmæus, Bodd. Elench. Anim. p. 131 (1785); Ogilb. P. Z. S. 1836, p. 138.
Antilope (Gazella) pygmæa, Licht. Mag. nat. Freund. vi. p. 178 (1814).
Cerophorus (Cervicapra) pygmæa, Blainv. Bull. Soc. Philom. 1816, p. 75.
Cemas pygmæa, Oken, Lehrb. Naturg. iii. Zool. ii. p. 744 (1816).
Antilope (Neotragus) pygmæa, H. Sm. Griff. An. K. iv. p. 270, v. p. 349 (1827).
Neotragus pygmæa, A. Sm. S. Afr. Quart. J. ii. p. 218 (1834).
Cephalophorus (?) pygmæus, Gray, List Mamm. B. M. p. 163 (1843).
Nanotragus pygmæus, Gray, Ann. Mag. N. H. (1) xviii. p. 231 (1846); Brooke, P. Z. S. 1872, p. 640, pl. liii. (animal), fig. skull; Flow. & Lyd. Mamm. p. 339 (1891); Lyd. Horns and Hoofs, p. 216 (1893).
Cephalophus (Nanotragus) pygmæus, Gerv. H. N. Mamm. ii. p. 209 (1855).

Antilope regia, Erzl. Syst. R. A. p. 278 (1777); Gatt. Brev. Zool. i. p. 80 (1780); Bodd. Elench. An. p. 140 (1785).

Nanotragus regius, Gray, Knowsl. Men. p. 12 (1850).

Antilope spinigera, Temm. Mon. Mamm. i. p. xxx (1827) (descr. nulla); Less. Man. Mamm. p. 379 (1827); J. B. Fisch. Syn. Mamm. p. 469 (1829); Gerv. Dict. Sci. Nat. Suppl. i. p. 263 (1840); Wagn. Schr. Säug. Suppl. iv. p. 457 (1844), v. p. 416 (1855); Schinz, Syn. Mamm. ii. p. 421 (1845); Gieb. Säug. p. 320 (1854).

Antilope (Spinigera) spiniger, Less. N. Tabl. R. A., Mamm. p. 178 (1842).

Nanotragus spiniger, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 191 (1846); id. Öfv. K. Vet.-Ak. Förh. 1846, p. 83 (1847); id. Pecora, Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 143; Reprint, p. 67 (1848); Fitz. SB. Ak. Wien, lix. pt. 1, p. 164 (1869); Jent. Cat. Ost. Leyd. Mus. (Mus. Pays-Bas, ix.) p. 134 (1887); id. Cat. Mamm. Leyd. Mus. (Mus. Pays-Bas, xi.) p. 164 (1892).

Calotragus spiniger, Temm. Esq. Zool. Guin. pp. 192 & 201 (1853).

Cephalophus spiniger, Büttikofer, Reisebild. Liberia, ii. p. 379 (1890).

Nanotragus perpusillus, Gray, P. Z. S. 1850, p. 126; id. Ann. Mag. N. H. (2) viii. p. 143 (1851); id. Cat. Rum. B. M. p. 30 (1872); id. Hand-l. Rum. B. M. p. 98 (1873).

Antilope perpusilla, Huet, Bull. Soc. Acclim. 1887, p. 67.

VERNACULAR NAME:—*Sang* of the Veys in Liberia (*Büttikofer*).

Height about 10 inches at withers. General colour bright rufous fawn, browner on head and fore back, richer posteriorly and on sides of neck and flanks. Chin and under surface pure sharply defined white. Limbs rufous, except a narrow line down the posterior side of the fore and the anterior side of the hind ones, which is white. Tail about $2\frac{1}{2}$ inches long, without its tuft, bright rufous above, except at its tip, where it is pure white, as it is also below.

Skull as described above. Dimensions of an old male example:—Basal length (c.) 3·5 inches, greatest breadth 1·9, muzzle to orbit 1·84.

Horns less than an inch long, sharply pointed, perfectly smooth and without ridges.

Hab. Forests of West Africa from Liberia to Ashantee.

The literary history and complicated synonymy of the Royal Antelope occupied the attention of the late Sir Victor Brooke, when he was engaged in the study of the Ruminants, for a considerable period, and the result was

a valuable communication to the Zoological Society of London on the 21st May, 1872, which was subsequently published in the Society's 'Proceedings.' Being engaged on a work originally planned by our lamented friend, and having the use of the illustrations which he has so carefully prepared, we cannot do better than commence our account of this species with a *résumé* of his excellent elucidation of this difficult subject, which is nearly as follows :—

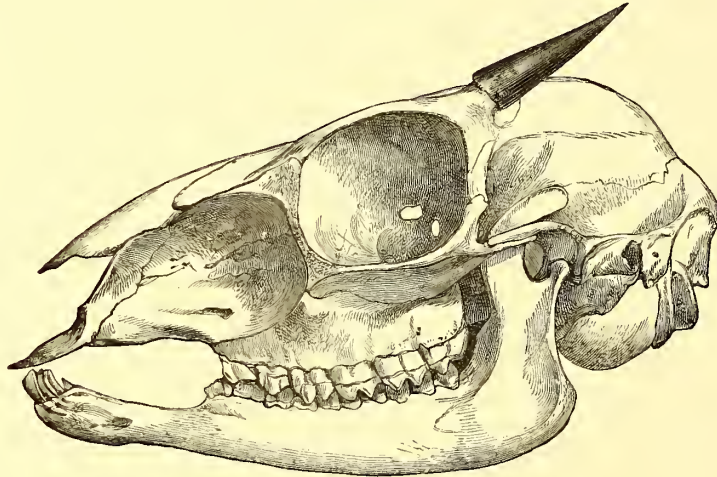
Bosman, in his Description of the Gold Coast, published at Utrecht in 1704*, seems to have been the first author who mentions the Royal Antelope. After describing the colour and very small size of the animal, and the custom of making the feet into pipe-stoppers (one of which he states he had sent home set in gold), Bosman writes :—“the negroes call it the ‘King of the Harts.’ This expression, no doubt, originated the English name of ‘Royal Antelope,’ by which this species has always been known.”

The celebrated ‘Thesaurus’ of Seba, published in 1734, gives us the first record of specimens of this animal having found their way into European museums, figure 3 of the 43rd plate of that work, illustrating his *Cervus juvenicus perpusillus guineensis*, being, as Sir Victor Brooke has shown, undoubtedly referable to the Royal Antelope. In 1754 the Museum of King Adolphus Frederick seems to have contained a specimen of this animal, and it was in the folio catalogue of this collection that Linnæus appears to have first given a definite name (*Capra perpusilla*) to the present species. It seems, therefore, that the two sources from which Linnæus derived his knowledge of it were Seba’s ‘Thesaurus,’ with possibly an examination of Seba’s specimens, and, secondly, the Museum of King Adolphus Frederick. As regards the ‘Systema Naturæ,’ Linnæus first mentioned this species in his second edition (1740), and gave as its diagnosis “*Capra pedibus digito humano augustioribus*,” with a reference to figure 3 of plate 43 of Seba’s ‘Thesaurus.’ In the 6th edition of the ‘Systema’ (1748) both diagnosis and reference are repeated word for word. But in 1754, when Linnæus prepared his catalogue of the Museum of King Adolphus Frederick just alluded to, besides describing a specimen of the Royal Antelope in that collection, to which he applies the diagnosis of the ‘Systema Naturæ’ given above, he

* Nauwkeurige Beschryving van de Guinese Goud-Tand en Slave-Kust. Door Willem Bosman. Utrecht, 1704.

mentions on the same page a second specimen under the name *Cervus guineensis*. This, as Sir Victor Brooke has shown, was evidently quite a different animal—probably a young of some small species of *Cephalophus*. Nevertheless, in the 10th edition of the ‘Systema Naturæ,’ published in 1758, Linnæus, regardless of the name *Capra perpusilla* given in former publications, now attributes to the same species the new name *Capra pygmæa*, and also finds another species, “*Cervus guineensis*,” on the *Cervus griseus subtus nigricans* of the “Museum Adolphi Frederici.” In the 12th edition of the ‘Systema’ (1766) these two species are united under the title *Moschus pygmæus*. It is, however, manifest from the diagnosis, and from his reference

Fig. 26.



Skull of *Neotragus pygmæus*, ♂.
(P. Z. S. 1872, p. 642.)

to Seba's plate, that the “Royal Antelope” was the principal object in Linnæus's mind when he founded his *Capra pygmæa*. There is also little doubt, as Sir Victor Brooke has shown, that the young specimen of the Royal Antelope which ultimately passed from Seba's Museum to Leyden was the original of Seba's figure, plate 43. fig. 3, and that the specimen of the same species that went to the Stockholm Museum was the original of Seba's figure 1 of plate 43. Under these circumstances we can have no hesitation in following Sir Victor Brooke, and adopting the term *pygmæus* of Linnæus as being the correct specific name of this Antelope. For its generic name we must use the term *Neotragus*, proposed by Hamilton Smith in 1827,

as being unquestionably first in date, and the Royal Antelope thus becomes *Neotragus pygmæus* in the scientific terminology of modern Natural History.

Pennant, in his 'Synopsis of Quadrupeds,' published in 1771, is perhaps the first author who called the present species the "Royal Antelope," quoting first of all Bosman's term "King of the Harts," though he added to its synonyms references to other species which probably do not belong to it. Erxleben in 1777 based the name *Antilope regia* upon nearly the same authorities, but this term, as we have already shown, was antedated by Linnæus's *Capra pygmæa*. In 1827 Temminck applied the name *Antilope spinigera* to the same animal, without, however, giving any description of it. Temminck's name was employed by Sundevall in his excellent essay upon the *Pecora*, first published in 1846, when, however, he very unnecessarily created the new generic term *Nanotragus* for this species, which, as already stated, had previously been called *Neotragus* by Hamilton Smith. Sundevall took his description from an adult male specimen in the Leyden Museum, stating that he had also seen a female at Paris, but had mislaid his notes upon it.

The earliest specimens of *Neotragus pygmæus* in the Leyden Museum, which consisted of two adult males and the skeleton of a female, were received in 1824 from the Dutch Factory on the Gold Coast.

The first collector of modern date who met with examples of this little Antelope appears to have been the Dutch naturalist Pel, who, when he left Leyden on his travels, was specially recommended by Temminck to search for it. After ten years' residence upon the Gold Coast Pel succeeded in procuring three individuals only, which were found by him on the borders of Ashantee, and when sent home to Leyden served for Temminck's excellent description of this animal, published in his 'Esquisses Zoologiques sur la Côte du Guinée' in 1853. Pel's notes state that this Antelope is found "solitary or in pairs in the thickest forests of the Guinea coast. Their activity is remarkable, and they are disturbed at the least noise, starting off with leaps and bounds to a considerable distance." Pel's exact localities for these specimens, as given in the 'Catalogue of the Mammals of the Leyden Museum' (1892), are Dabocrom, St. George d'Elmina, and Ashantee.

Herr Büttikofer, though he speaks of this Antelope in his 'Reisebilder aus Liberia,' does not appear to have obtained examples of it in that country. He says, however, that it is called "Sang" by the native Veys, and that when

he showed them a coloured picture of the animal they recognized it immediately, and said that it lived in the forest and was extraordinarily shy, moving away when discovered in a series of long jumps, which often extended to nine feet in length.

Sir Victor Brooke's specimens of the Royal Antelope, consisting of three adult and very perfect individuals, were received by him from Mr. Ussher, who, when Governor of the Gold Coast, supplied our Museums with many interesting objects of Natural History.

Our Plate XXIX., which was prepared under Sir Victor Brooke's direction by Mr. Wolf and engraved by Mr. Smit, no doubt from Sir Victor's own specimens, represents both sexes of this interesting species. The same drawing also served for the plate which illustrates Sir Victor's paper in the Zoological Society's 'Proceedings,' already referred to.

The National Collection contains a mounted specimen of an adult male of this Antelope from Fantee, and a young one in spirits from the same locality, the latter presented by Mr. H. F. Blissett. In the same collection is a young specimen from Lagos, presented by our much lamented friend the late Dr. E. Dobson, and a second young one from the Guinea coast, obtained by Pel and received in exchange from the Leyden Museum. Further adult examples of this little Antelope would, however, be much valued, and it is to be hoped that among the many officers engaged in the new Ashantee Expedition to Kumasi some may be found with time and opportunity to get fresh specimens of this "smallest of all the Ruminants."

December, 1895.

GENUS VI. MADOQUA.

	Type.
<i>Madoqua</i> , Ogilb. P. Z. S. 1836, p. 137	M. SALTIANA.
<i>Neotragus</i> , Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 191 (1846)	
(et auctorum plurimorum, nec H. Sm.)	M. SALTIANA.

Size small; nose elongated, proboscis-like; its tip nearly entirely hairy, except just on the lower part of the nasal septum; crown of head tufted; tail very short, almost rudimentary; accessory hoofs present, but quite minute.

Skull with the premaxillæ long and the nasals short, in correlation with the lengthening of the snout into a proboscis; anteorbital vacuities large; anteorbital fossæ large but shallow; last lower molar in some species without the posterior lobe which is present in all other ruminants.

Horns from half to three-quarters the length of the skull, straight or slightly sinuate, strongly ribbed basally.

Distribution. Extending diagonally across Africa from Abyssinia to Damaraland. No species found either in N.W., South, or S.E. Africa.

Of this genus we are prepared to recognize six species, which fall naturally into two groups—(A) those in which the proboscis is comparatively slightly developed and the last lower molar is without a posterior lobe, and (B) those in which the proboscis is very long and the last lower molar, as in other Ruminants, has a third lobe. Within the groups the species differ comparatively little from each other, but may be distinguished without difficulty by the characters of size, colour, and form, used in the following synopsis:—

- A. Last lower molar without a third lobe; upper line of premaxillæ slanting, scarcely curved. Proboscis less developed.
- a.* Back yellowish or fulvous grey, sides scarcely more rufous.
- a'*. Size larger, basal length of skull 3·75 in. . . . 52. *M. saltiana*.
- b'*. Size smaller, basal length of skull about 3·1 in. 53. *M. swaynei*.

- b.* Back grey, sides and shoulders rich rufous or cinnamon: size intermediate between last two (skull 3·25 in.) . . . 54. *M. phillipsi*.
- B.** Last lower molar with a third lobe; upper line of premaxillæ **S**-shaped. Proboscis more developed.
- c.* Tips of nasals about level with the front edge of the anterior premolar, about 1·3 in. from the end of the premaxillæ (gnathion).
- c'*. Back of orbit to gnathion about 3·4 in. . . . 55. *M. damarensis*.
- d'*. Back of orbit to gnathion about 3 in. . . . 56. *M. kirki*.
- d.* Tips of nasals about level with the back of the middle premolar and about 1·65 in. from the gnathion 57. *M. guentheri*.



Woolley. Skint. 4.6.

Salt's Dik-dik
MADOQUA SALTIANA

Hanhart. 1892.

Published by R. D. Foxter

52. SALTS' DIK-DIK.

MADOQUA SALTIANA (BLAINV.).

[PLATE XXX.]

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- “*Madoqua*,” Salt, Travels in Abyssinia, App. iv. p. xi.
Cerophorus (Cervicapra) saltiana, Blainv. Bull. Soc. Philom. 1816, pp. 75 & 79; id. Oken's Isis, 1819, p. 1096.
Antilope saltiana, Desm. N. Dict. d'H. N. (2) ii. p. 192 (1816); Schinz, Cuv. Thierr. i. p. 395 (1821); Desmoul. Dict. Class. i. p. 446 (1822); Desm. Mamm. ii. p. 465 (1822); Goldf. Schr. Säug. v. p. 1244 (1824); Cretzschm. Atl. Rüpp. Reise, p. 55, pl. xxi. (♂ ♀, young) (1826); Less. Man. Mamm. p. 380 (1827); Licht. Darst. Säug. pl. xvi. (♂ ♀) (1828); Hempr. & Ehr. Symb. Phys. pl. vii. (1828); J. B. Fisch. Syn. Mamm. p. 470 (1829); Oken, Allg. Naturg. vii. p. 1361 (1838); Laurill. Dict. Univ. d'H. N. i. p. 622 (1839); Gerv. Dict. Sci. Nat. Suppl. i. p. 263 (1840); Schinz, Syn. Mamm. ii. p. 418 (1845); Huet, Bull. Soc. Acclim. 1887, p. 68.
Antilope (Neotragus) saltiana, Less. Compl. Buff. x. p. 295 (1836); id. N. Tabl. R. A., Mamm. p. 178 (1842).
Madoqua saltiana, Ogilb. P. Z. S. 1836, p. 137; Gray, List Mamm. B. M. p. 164 (1843); Thos. P. Z. S. 1894, p. 328.
Neotragus saltianus, Jard. Nat. Libr., Mamm. iii. pt. 1, p. 229, pl. xxxiii. (1835); Gray, Ann. Mag. N. H. (1) xviii. p. 231 (1846); id. Cat. Ost. B. M. p. 56 (1847); id. Knowsl. Men. p. 8 (1850); id. P. Z. S. 1850, p. 120; id. Ann. & Mag. N. H. (2) viii. p. 138 (1851); id. Cat. Ung. B. M. p. 76 (1852); Gerr. Cat. Bones Mamm. B. M. p. 236 (1862); Blanf. Zool. Abyss. p. 268 (1870); Flow. & Gars. Cat. Coll. Surg. ii. p. 268 (1884); Giglioli, Ann. Mus. Genov. (2) vi. p. 19 (1888) (Assab); Flow. & Lyd. Mamm. p. 238 (1891); Lyd. Horns and Hoofs, p. 214 (1893).
Calotragus saltianus, Temm. Esq. Zool. Guin. p. 192 (1853).
Cephalophus (Ourebia) saltiana, Gerv. H. N. Mamm. ii. p. 209 (1855).

- Antilope (Neotragus) madoka*, H. Sm. Griff. An. K. iv. p. 271, v. p. 350 (1837); A. Sm, S. Afr. Quart. J. ii. p. 218 (1834); Less. Compl. Buff. x. p. 295 (1836).
- Antilope madoqua*, Waterh. Cat. Mamm. Mus. Z. S. (2) p. 40 (1838).
- Antilope hemprichiana*, Ehr. in Hempr. & Ehr. Symb. Phys. text to pl. vii. (1833); Oken, Allg. Naturg. vii. p. 1362 (1838); Wagn. Schr. Säug. Suppl. iv. p. 455 (1844), v. p. 415 (1855); Gieb. Säug. p. 319 (1854).
- Neotragus hemprichianus*, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 191 (1846); id. Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 143; Reprint, p. 67 (1848); Heugl. Ant. u. Büff. N.O.-Afr. (N. Act. Leop. xxx. pt. 2) p. 9 (1863); Fitz. SB. Ak. Wien, lix. pt. 1, p. 168 (1869); Heugl. Reise N.O.-Afr. ii. p. 107 (1877).
- Antilope hemprichii*, Rüpp. N. Wirb. Abyss., Mamm. p. 25 (1835).
- Tragelaphus hemprichii*, Rüpp. Verz. Senck. Mus. p. 37 (1842).
- Madoqua hemprichii*, Ogilb. P. Z. S. 1836, p. 137.
- Neotragus hemprichii*, Brehm, Thierl. iii. p. 255 (1880).

VERNACULAR NAMES:—*Beni Israel* at Massowa; *Atro* in Tigré; *Endju* in Tigrenya; *Dik-dik* at Kassala; *Sequééré* in Danak; *Kéo* in Djeng (*Heuglin*).

Size large, height at withers 14–15 inches. Face rich rufous, crest of much the same colour. Neck coarsely lined cinereous grey. Back fulvous or rufous fawn, becoming scarcely more rufous on the sides. Chin and belly whitish, more or less tinged with fawn. Limbs pale rufous. Tail, as usual, like the back.

Skull with the nasals less shortened than in group B. Anteorbital vacuities large. Premaxillæ, although rather more lengthened, yet not strikingly more so than in other Antilopes, and their upper profile but little curved. Basal length in a good male 3·75 inches, greatest breadth 2·27, muzzle to orbit 2·1, tip of nasals to tip of premaxillæ 1·3.

Horns short, nearly straight, strongly ridged basally.

Hab. Coast-range of Eastern Abyssinia.

Our countryman Henry Salt, F.R.S., who travelled into the interior of Abyssinia at the beginning of the present century, and obtained many objects of Natural History, was the original discoverer of this species, which appropriately bears his name. It will be found mentioned in the fourth Appendix to his 'Voyage in Abyssinia' under the name "*Madoqua*," by which he says it is called in Tigré. Salt's specimen in the Museum of the Royal College of Surgeons attracted the notice of M. de Blainville when he came to London in

1815 to collect materials for his articles on Mammals, and upon them was based the name *Antilope saltiana*, by which de Blainville afterwards described them before the Société Philomatique of Paris.

The next observer that seems to have met with this Antelope was the German naturalist Rüppell, who transmitted many specimens to the Senckenbergian Museum at Frankfort-on-the-Main. These were correctly described and figured by Cretzschmar in his Atlas to Rüppell's 'Travels,' published in 1826. Rüppell met with this species in great numbers on the eastern flanks of the Abyssinian coast-range, where, he says, it is known by the natives as the "Atro." "It is found amongst the low brush-wood, and is fleet and wary in escaping from its numerous enemies."

About the same time Salt's Dik-dik was figured by Lichtenstein from specimens in the Berlin Museum obtained by Hemprich and Ehrenberg near Massowah, under the name *Antilope saltiana*. But these celebrated travellers, when they came to treat of it again in their 'Symbolæ Physicæ,' although they used the name *Antilope saltiana* on their plate, proposed in their letter-press to change it to that of *Antilope hemprichiana* (of Ehrenberg's MS.), alleging that the original *Antilope saltiana* of Blainville must have referred to some different species. These authors tell us that Hemprich obtained his first specimens of this species in the month of May, in the woods of the Gedam Mountains, and others in the month of July, near Ilet. They describe it as very common in these localities, but not gregarious. A gravid female was obtained at the beginning of May.

Mr. W. T. Blanford, when accompanying the Abyssinian Expedition of 1867-68, met with numerous examples of this Antelope, of which he gives us the following account:—

"The 'Beni Israel' or 'Om-dig-dig,' one of the smallest Antelopes known, abounds on the shores of the Red Sea and throughout the tropical and sub-tropical regions of Abyssinia. It is occasionally, but rarely, found at higher elevations; I heard of instances of its being shot both at Senafé and Dildi; but it is not often seen above about 6000 feet. It inhabits bushes, keeping much to heavy jungle on the banks of watercourses, and is usually single, or in pairs, either a male and female or a female and young being found together; less often the female is accompanied by two younger ones, which remain with her until full-grown.

"Like *Gazella dorcas* and many larger Antelopes, the Beni Israel has the

habit of depositing its dung frequently on the same spot, so that its usual haunts may be known by little piles of its droppings. It rarely leaves the shelter of the bushes during the day, and is, I suspect, somewhat nocturnal in its habits, as I have seen it feeding on leaves at the edges of the jungle in the dusk of evening.

“All the specimens of Salt’s Antelope seen in the Anseba valley differed from those of the coast and of the pass between Komayli and Senafé in their much more rufous colour. There is no distinction, so far as I can see, in size or shape. I am inclined to look upon this as an unimportant variation, the more so that, as previously noticed when speaking of the *Hyraces*, many animals, and especially mammals, have a tendency at times or in particular localities to assume a rufous phase; so that the difference between rufous and grey, or rufous and brown, is one of the least characteristic and certain of specific distinctions.”

Another good authority on Abyssinian Mammals, Theodor von Heuglin, has also told us that this little Antelope is very common in the Abyssinian coast-district, ranging north to the mountains of the Beni Amer, and westwards as far as Takeh. He says that it is more plentiful in the bushes on the borders of the hill-district than on the plateau of the sea-coast, and that it ascends the mountains to a height of 5000 feet. Finally, as is recorded by Dr. Giglioli, the Italian naturalists Boutourline and Traversi, who went to Shoa in 1884, obtained specimens of this Antelope much further south, at Assab. It is, however, quite possible that these last-named examples may have belonged to one of the allied species which next follow.

Salt’s Dik-dik is represented in the British Museum by a mounted pair in the Gallery, of which the male was obtained by Rüppell and the female by Sir William Cornwallis Harris. There are also in that Collection skins of both sexes procured by Mr. Blanford during the Abyssinian Expedition, and a skeleton and skull collected by Mr. Jesse on the same occasion.

Our figure of this Antelope (Plate XXX.) was put on the stone by Mr. Smit from a water-colour drawing by Wolf. This drawing, which was prepared under Sir Victor Brooke’s direction, is now in Sir Douglas Brooke’s possession.

December, 1895.

53. SWAYNE'S DIK-DIK.

MADOQUA SWAYNEI, THOS.

Neotragus saltianus (in part), Swayne, P. Z. S. 1892, p. 307.

Madoqua swaynei, Thos. P. Z. S. 1894, p. 328 (Berbera); Hoyos, Zu den Aulihan, p. 185 (1895); Swayne, Somaliland, p. 318 (1895).

VERNACULAR NAMES:—*Guyu* of Somalis (*Swayne*), and, with the other Somali *Dik-diks*, *Sakáro* as a generic name (*Swayne*).

Similar in almost all respects to *M. saltiana*, but considerably smaller. Back grizzled grey, with a fulvous suffusion. Sides not, or scarcely, more rufous than back. Limbs pale rufous.

Skull like that of *M. saltiana*, but much smaller. Basal length (male) 3·06 inches, greatest breadth 1·9, muzzle to orbit 1·6, tip of nasals to tip of premaxillæ 1·03.

Hab. Northern half of Somaliland.

In Northern Somaliland the place of Salt's Dik-dik appears to be taken by two other forms, which were first discriminated by Thomas in an article upon these dwarf Antelopes read before the Zoological Society in April 1864. The present species Thomas named after the enthusiastic naturalist and sportsman Capt. H. G. C. Swayne, R.E., who called Thomas's attention to its distinctness, and who first furnished the National Collection with specimens.

Swayne's Dik-dik is, perhaps, of somewhat doubtful position in the genus. In colour it nearly resembles the larger Abyssinian species *Madoqua saltiana*, but is at once distinguishable by its smaller size. In stature it agrees more nearly with the next species, Phillips's Dik-dik, of which it may hereafter possibly be shown to be a feebly coloured variety. Capt. Swayne, however,

is very strongly of opinion that, though found in the same localities, these two Antelopes are, as is asserted by the natives, quite distinct.

The "*Sakára Guyu*," as the Somalis call the present species, is found, according to Capt. Swayne, in pairs in suitable localities all over Northern Somaliland. It lives in broken ground, where there is good cover of low mimosa-scrub, and is never seen in open grass plains, but is specially partial to aloe undergrowth. The female exposes herself most to view, and is consequently more often shot.

"They lie very close, and when disturbed they dart off at speed with two or three sharp whistling alarm-notes uttered in quick succession. This often gives the alarm to larger game.

"Three or four Sakáro may be seen together, seldom or never more.

"Young Sakáro are soon able to take care of themselves, and only when very young can they be run down on foot by the Somalis, who often catch them to eat. The Somalis, who are sensible in most ways, are peculiar in that they do not eat birds, and know little about them, calling them contemptuously 'Shimbir,' the Arabic for bird, but generally having no names for the different kinds. They say birds are 'Haram,' or forbidden food.

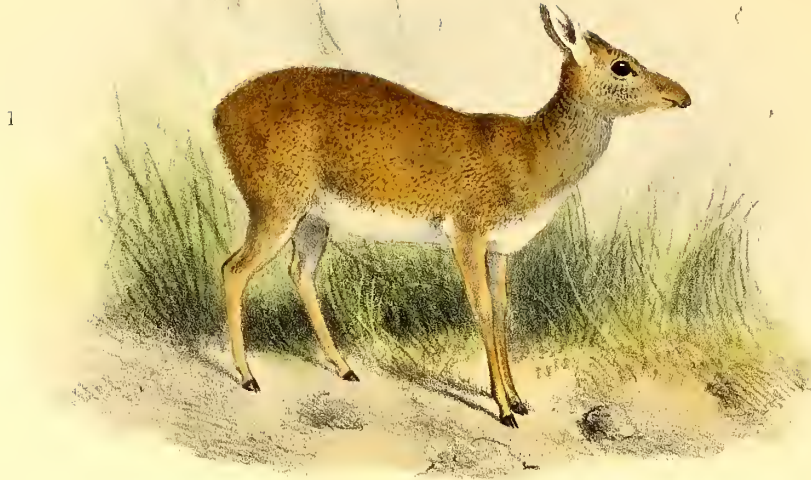
"I have seen probably eighty Sakáro in the course of a day. Their habits are those of the hare, and they live in similar ground.

"They nibble the young shoots of the mimosa. They like to be near water, and go to drink at midday and just after nightfall. They are especially lively in the afternoon and evening."

Besides Capt. Swayne's skins there are specimens in the British Museum obtained by Herr Menges at Gerbatir, in Northern Somaliland, which are provisionally referred to this species, and also two examples presented (in April 1894) by Dr. Donaldson Smith from Milmil in the interior of that country.

We have received no further material towards elucidating this difficult point since Thomas wrote his monograph of the genus, and must therefore leave it for future workers to settle. In collecting skins and skulls, sportsmen are particularly requested to mark very carefully on them which skin belongs to each skull, as it is to the habitual neglect of such labelling that the present impossibility of clearing the matter up is mainly due.

December, 1895.



Sci. Del & lith

Fig. 1. Günther's Dik-dik .
MADOQUA GUENTHERI .
Fig. 2. Phillips' Dik-dik .
MADOQUA PHILLIPSII .

Hanhart imp.

Published by R.H. Porter .

54. PHILLIPS'S DIK-DIK.

MADOQUA PHILLIPSI, THOS.

[PLATE XXXI. FIG. 2.]

Neotragus saltianus, Blyth, J. A. S. B. xxiv. p. 297 (Berbera); id. Cat. Mamm. Mus. As. Soc. p. 168 (1863); Thos. P. Z. S. 1891, p. 211; Ward, Horn Meas. p. 80 (1892); Swayne, P. Z. S. 1892, p. 307 (in part).

Madoqua phillipsi, Thos. P. Z. S. 1894, p. 327 (fig. skull) (Dobwain, Somaliland); Hoyos, Zu den Aulihan, p. 185 (1895); Swayne, Somaliland, p. 318 (1895).

VERNACULAR NAME :—*Gol-Ass* of Somalis (*Swayne*).

Size rather larger than in typical examples of *M. swaynei*. Head, neck, and back coloured as in *M. saltiana*, except that the rufous of the crown and back of ears is deeper and richer. Shoulders and flanks rich bright rufous, very different from the faint rufous of *M. saltiana*. The rufous encroaches a good deal on the chest, but the chin and belly are as usual whitish. Limbs rich rufous.

Skull and horns as in *M. saltiana*, but smaller. Basal length 3·25 inches, greatest breadth 2·05, muzzle to orbit 1·76, tip of nasals to tip of premaxillaries 1·1.

Hab. Northern Somaliland.

This Dik-dik was discriminated by Thomas in 1894 in the same communication to the Zoological Society of London as that in which he described Swayne's Dik-dik, and was named after Mr. E. Lort Phillips, another well-known explorer of Somaliland, who has specially devoted himself to the study

of the birds of that country*. Phillips's Dik-dik is by far the most beautiful and brightly coloured member of the genus, as will be seen by reference to our figure (Plate XXXI. fig. 2), which has been prepared by Mr. Smit from a specimen in the British Museum. The brilliant rufous of its sides make a fine contrast to the grey of the neck and back.

The "Gol-Ass" or "Red-belly" of the Somalis, Capt. Swayne tells us, is shot all over Gastan and Ogo and in parts of the Hand and Ogaden. In the maritime plain of Berbera they appear to be very abundant, and Capt. P. Z. Cox has lately sent to the British Museum three good skeletons and face-skins obtained in that district in July last. Mr. Melliss, in his recently published 'Lion-hunting in Somali-land,' speaks of his rencontre with the Dik-diks as follows:—

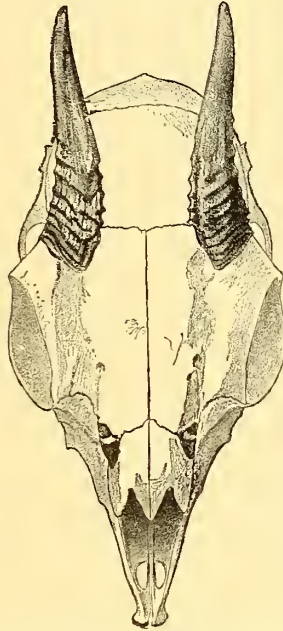
"How pleasant it was, walking through the jungle ahead of the string of camels, gun in hand, in the delicious cool of the dawn, for the animal world was up too. Constantly the dainty little Sand-antelopes would spring away through the bushes at my approach. These charming little creatures, called in Somali-land 'Dik-diks,' in size scarcely as big as an English hare, are the most dainty miniatures of the Antelope race. They are ever in pairs of male and female, are much alike, except that the male has two tiny horns about an inch or two long, with a brown tuft of hair between them. Their skins vary in colour from a silvery grey to a russet-brown."

Mr. E. Lort Phillips, after whom this Antelope is named, has kindly supplied us with the following notes on it and its fellows of the same genus:— "Captain Swayne, in his volume 'Somali-land,' has so ably described these tiny Antelopes that little remains for me to say. With regard, however, to the name 'Dik-dik,' by which they are now so generally known, I would point out that this is not a Somali term, but hails from the country near Suakim, where it is the native name for the *Madoqua saltiana*. When suddenly startled, these little creatures bound off uttering shrill whistling notes of alarm. These notes are exactly represented by the words 'zick-zick, zick-zick': hence the Arab name. I have shot specimens of four species of *Madoqua*, namely *M. saltiana*, *M. swaynei*, *M. guentheri*, and *M. phillipsi*, and it is interesting to note that the habits and alarm-notes of each are

* See "On Mr. E. Lort Phillips's Collection of Birds from Somali-land," by Captain G. E. Shelley, F.Z.S., *Ibis*, 1885, p. 389, plates x.-xii., and another article which will appear in 'The *Ibis*' for January 1896.

identical. One curious habit which I have not seen recorded is that they seem to like to return to the same spot for their evacuations, their droppings forming little mounds mingled with the sand that they scrape up all round."

Fig. 27.



Skull of *Madoqua phillipsi* (reduced).
(P. Z. S. 1894, p. 327.)

Our figure of the skull of this species is taken from that given in the Zoological Society's 'Proceedings,' by the kind permission of the Society.

Besides the two specimens in spirits from Berbera obtained by Mr. E. Lort Phillips (one of which is the type) the British Museum contains several skins and skulls from Capt. Swayne's collection, two skins from Milmil collected by Dr. Donaldson Smith, and those of Capt. Cox already referred to.

Our figure of this species (Plate XXXI. fig. 2) has been prepared from these specimens by Mr. Smit.

December, 1895.

55. THE DAMARAN DIK-DIK.

MADOQUA DAMARENSIS (GÜNTH.).

? *Neotragus saltianus*, Bocage, P. Z. S. 1878, p. 743 (Angola).

Neotragus damarensis, Gunth. P. Z. S. 1880, p. 20 (fig. skull) (Damaraland); Flow. & Lyd. Mamm. p. 338 (1891); Lyd. Horns and Hoofs, p. 215 (1893).

Nanotragus damarensis, Nicolls & Egl. Sportsm. in S. Afr. p. 56 (1892).

Madoqua damarensis, Thos. P. Z. S. 1894, p. 329.

Cephalophus hemprichianus, Jent. N. L. M. ix. p. 172 (1887) (Mossamedes).

Size largest of the genus. General colour greyish on the crown and along the centre of the back, pale rufous on the backs of the ears, sides, and limbs. Tuft on crown mixed with black.

Skull apparently similar to that of the next species, except for its greater size, but as we have only seen a single imperfect example, it is possible that other differences will be found when more material is examined. Greatest breadth of skull (c.) 2·2 inches, muzzle to front of orbit 2·23, to back of orbit 3·4.

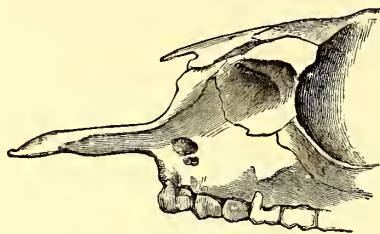
Hab. Damaraland, and probably Southern Angola.

In South-western Africa the Dik-diks are represented by a somewhat similar species of rather larger size, of which, however, we as yet know very little. In fact the typical specimen in the British Museum and two others in the South-African Museum, Capetown, are the only authentic examples of this species yet received, though it is probable that specimens in the Lisbon and Leyden Museums may be likewise referable to it.

In 1879 Sclater received from Mr. Roland Trimen, F.R.S., then Curator of the South-African Museum, Capetown, a female specimen of a Dik-dik which

had been obtained by Mr. Eriksson in Damaraland, and handed it over to Dr. Günther for determination. Dr. Günther described it, at a meeting of the Zoological Society of London in January 1880, as belonging to a new species, which he proposed to call "*damarensis*" after its locality. Dr. Günther

Fig. 28.



Fore part of skull of *Madoqua damarensis*; side view (reduced).
(P. Z. S. 1880, p. 21.)

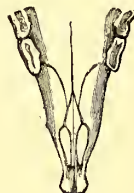
Fig. 28 a.



Fig. 28 b.



Fig. 28 c.

Fig. 28 a. Upper view of snout of *M. damarensis*.Fig. 28 b. Lower view of snout of *M. damarensis*.Fig. 28 c. Lower view of snout of *M. saltiana*.

(P. Z. S. 1880, p. 21.)

Fig. 28 d.



Fig. 28 e.

Fig. 28 d. Posterior mandibular molar of *M. saltiana*.Fig. 28 e. Posterior mandibular molar of *M. damarensis*.

(P. Z. S. 1880, p. 22.)

pointed out that externally the new species resembled the Abyssinian *M. saltiana* very nearly, but was unmistakably different in cranial characters, which he described as follows:—"As in *M. saltiana*, the intermaxillary and lacrymal bones form a suture together. But the lateral branches of the

intermaxillary are much narrower than in that species, and altogether of the same shape as in *M. kirki*; and the entire prelacrymal part of the snout is narrower than in *M. saltiana*, which is especially striking in the lower view of the snout (figs. 28 *b* and 28 *c*). Also with regard to the form and size of the nasal bones the new species is in some measure intermediate between the two other species. The suture, by which the nasals are united with the frontals, forms a much more obtuse angle than in *M. saltiana*, but is not a straight transverse line as in *M. kirki*. The size of these bones is the same as in the Abyssinian species. The hindermost molar of the lower jaw has a third lobe developed behind with a single enamel fold as in *M. kirki*. The nasal cavity seems to be as distensible as in the Abyssinian species."

Mr. Trimen furnished Sclater with the following information respecting this specimen:—

"It was sent to me in March last from Damaraland by Mr. Eriksson, who has lately presented to us a male specimen. The Museum previously possessed a young male, also a Damaraland specimen, presented by the late Mr. James Chapman The colouring of the male and female is the same; but the adult male has straight horns $2\frac{3}{4}$ inches long, with prominent irregular ridges (seven in one example) circling their basal half. In the young male that we have the horns are 1 inch shorter, and there are only three undeveloped ridges.

"Mr. Eriksson informs me that this Antelope frequents rocky hills in the vicinity of Omaruru (about a degree north of Walvisch Bay), but is not easily procured, owing to its great agility among its stony haunts."

Judging from the localities it would appear highly probable that the Dikdiks obtained on the River Cunene by the well-known Portuguese collector d'Anchieta, and referred by M. Barboza du Bocage to *M. saltiana*, as also the skull in the Leyden Museum procured in Mossamedes by Mr. P. J. Van der Kellen, and assigned by Dr. Jentink in 1887 to "*Cephalophus hemphrichianus*," will be found to belong to *Madoqua damarensis*, and that this species extends into the southern provinces of Angola, where the country is of the same character as in Damaraland.

December, 1895.

56. KIRK'S DIK-DIK.

MADOQUA KIRKI (GÜNTH.).

Neotragus kirkii, Günth. P. Z. S. 1880, p. 17 (fig. head & skull) (Brava, S. Somaliland); Thos. P. Z. S. 1885, p. 222 (Kilima-njaro); Johnston, Kilima-njaro, p. 355 (1886); Hunter, in Willoughby's E. Africa, p. 290 (1889); W. Sci. Cat. Mamm. Calc. Mus. ii. p. 166 (1891); Flow. & Lyd. Mamm. p. 338 (1891); Ward, Horn Meas. p. 79 (1892); Lyd. Horns and Hoofs, p. 215 (1893); Jackson, Badm. Big Game Shooting, i. pp. 285, 310 (1894); Matschie, Ost-Afr. Säugeth. p. 118 (1895).

Neotragus damarensis, True, P. U. S. Nat. Mus. xv. p. 477, pl. lxxx. (skull) (1892).

Madoqua kirkii, Thos. P. Z. S. 1894, p. 328.

VERNACULAR NAME:—*Paa* of Swahilis (*Jackson and others*).—In common with *Raphicerus campestris* and *Nesotragus moschatus*.

Size medium. Proboscis more developed than in group A. General colour coarsely grizzled greyish fawn, more or less suffused with fulvous on the back, and with rufous on the sides and neck. Limbs rufous, but of very variable intensity.

Skull with the modification due to the development of a proboscis much more striking than in the first section of the genus, although not carried to such an extreme as in *M. guentheri*. Premaxillæ slender, their upper edge forming an S-shaped curve; their ascending process sometimes ending just above the anterior tooth, and sometimes rising nearly or quite to meet the nasals. Nasals very short. Last lower molar with the usual third lobe characteristic of all other ruminants but those of the *M. saltiana* group. Even here, however, the lobe is very small. Dimensions of a good male example:—Basal

length 3·7 inches, greatest breadth 1·95, muzzle to orbit 2·03, muzzle to tip of nasals 1·25.

Horns thick, strongly ridged below, seldom exceeding $2\frac{1}{2}$ or $2\frac{3}{4}$ inches in length.

Hab. E. Africa from Southern Somaliland to Ugogo.

This Dik-dik was likewise first described by Dr. Günther in 1880 from specimens transmitted to the British Museum by Sir John Kirk, who procured them near Brava, on the coast of Southern Somaliland. Dr. Günther drew special attention to the peculiar form of the elongated muzzle in this species. This feature, as will be seen by the illustration (fig. 29),

Fig. 29.



Head of *Madoqua kirki*.
(P. Z. S. 1880, p. 17.)

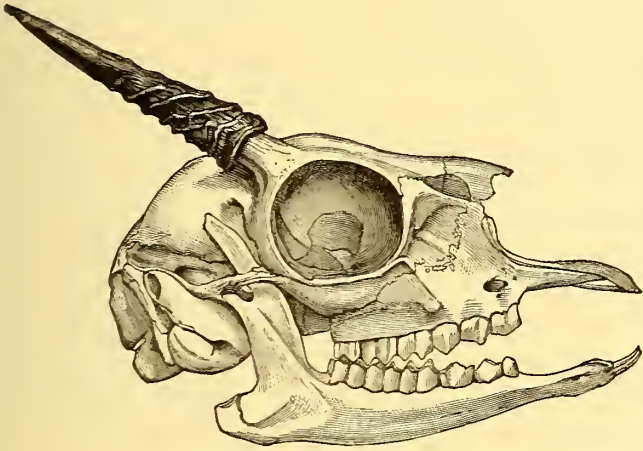
which we are able to reproduce by his leave and that of the Zoological Society, is a prominent character in *Madoqua kirki*, as in the preceding and following species.

The conformation of the skull of this species, as has been pointed out by us above, and previously much commented upon by Dr. Günther, is another

noteworthy peculiarity. It is shown in the two illustrations (figs. 29 *a* and 29 *b*), for the use of which we are likewise indebted to the Zoological Society and Dr. Günther.

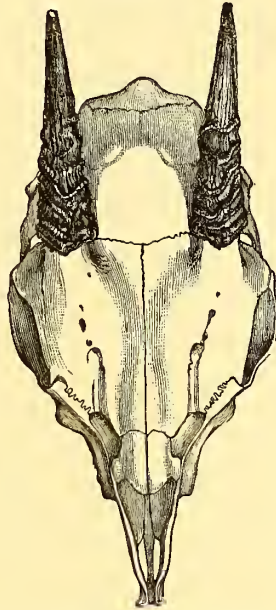
Further south on the east coast of Africa this Dik-dik has been obtained near Lamu by Consul Haggard and on the island of Manda, in the same district, by Sir John Kirk, both of whom have contributed specimens of it

Fig. 29 *a*.



Skull of *Madoqua kirki* (side view).
(P. Z. S. 1880, p. 19.)

Fig. 29 *b*.



Skull of *Madoqua kirki* (upper view).
(P. Z. S. 1880, p. 20.)

from this quarter to the National Collection. But south of the Sabaki River *M. kirki* appears to desert the coast, and to extend into the interior to the Kilimanjaro district. Sir H. H. Johnston, the first scientific explorer of Kilimanjaro, met with this Dik-dik at a high altitude on that mountain, and in his 'Kilimanjaro Expedition' (p. 355) has given us a characteristic drawing of its head. A subsequent explorer of Kilimanjaro, Dr. W. L. Abbott, obtained four specimens of this Antelope near Taveta; these were referred by Mr. True, in his article on Dr. Abbott's Mammals, to *M. damarensis*, from which he did not distinguish the present species. Mr. H. C. V. Hunter also obtained this Dik-dik "near the foot of Kilimanjaro," and has

furnished the British Museum with a skin and skull from that locality. He says it is "common there, in bush interspersed with aloes on dry soil," and "appears to subsist without water."

Finally, Mr. F. J. Jackson, in his interesting volume 'Big Game Shooting,' gives us the following information on this Antelope:—"The Paa is found throughout East Africa in thick and open bush on dry sandy soil. It is exceedingly plentiful on Manda Island, opposite Lamu, Merereni, the thick bush east of Taveta, and again in Ngaboto in the Suk country. It is the smallest of the East-African Antelopes, and is usually bagged with a shot-gun and No. 5 shot, as it darts about among the bush and scrub like a rabbit. The flesh of this little beast has a strong flavour of musk and is very disagreeable to eat at all times, but, in the rutting season is altogether uneatable; the natives, however, revel in it. Its note of alarm is between a shrill whistle and a scream. It feeds on the leaves of various shrubs, and doubtless its curious little prehensile nose is admirably adapted to securing its food. The Paa is found throughout the year in the driest and most arid wildernesses, where for several months there is neither rain nor even a drop of standing water for many miles round. It is therefore quite evident that the juices of the vegetation on which it feeds and the dews at night are sufficient for its requirements. The best way to obtain this little beast is to take three or four men to act as beaters, and they must thoroughly beat every bush at all likely to hold a buck, as it is in the habit of lying very close, and it takes a good deal to move it, but when once started it affords capital snap-shots."

South of Kilimanjaro this Dik-dik has been obtained by Herr Neumann at several localities in the interior of German East Africa, in Irangi and Northern Ugogo, and on Mount Gurui, and by Böhmer near Mpapwa. But Sir John Kirk assures us that in his extensive experience he has never met with it on the coast south of the Sabaki River.

The variations in colour of this species have caused us some difficulty, as while some specimens are strongly black-lined, without any, or with little, rufous on the sides, neck, and throat, others are clear rufous, almost without lining, on these parts. The strongest-lined specimen we have seen comes from Kilimanjaro*, while the most rufous is from Lamu. Curiously

* We are indebted to the authorities of the Smithsonian Institution for a series of measurements of the hoofs of the Kilimanjaro Dik-diks collected by Dr. Abbott. These measurements have

enough, however, the types, from Brava, South Somaliland, are fairly intermediate in their colour between the two, although, if anything, rather more like the one geographically most distant, that from Kilimanjaro.

In the skulls again, while, as is usual in these Antelopes, considerable differences are to be observed between any two skulls compared together, these differences do not appear to be correlated either with locality or colour-characters. In fact, with regard to the extension backwards of the pre-maxillæ towards the nasals, one specimen in the British Museum Collection has the two extremes on the two sides of its skull, showing conclusively that this character cannot be relied upon.

We have therefore come to the conclusion that, so far as the colour and skull-characters here mentioned are concerned, the Kilimanjaro, Lamu, and Brava Dik-diks cannot be separated from one another, even as subspecies or local races.

December, 1895.

helped materially to bring us to the conclusion we have come to above, as their wide range of variation shows that certain differences in the hoof-lengths that we had previously noted in the different forms cannot be regarded as of any value for distinguishing the species, and must merely be due to individual variation.

57. GÜNTHER'S DIK-DIK.

MADOQUA GUENTHERI, THOS.

[PLATE XXXI. FIG. 1.]

Neotragus, sp., Lort Phillips, P. Z. S. 1885, p. 932 (Somali plateau).

Neotragus kirkii, Scl. P. Z. S. 1886, p. 504; id. in James, Unknown Horn of Africa, p. 269 (1888).

Madoqua guentheri, Thos. P. Z. S. 1894, p. 324 (figs. of skull) (Ogaden); Hoyos, Zuden Aulihan, p. 185 (1895); Swayne, Somaliland, p. 318 (1895).

VERNACULAR NAME:—*Gussuli* of Somalis (*Swayne*).

Size of *M. kirkii*. Proboscis much more elongated. General colour coarsely grizzled greyish fawn, very much as in Kilimanjaro examples of *M. kirkii*. No rufous on the sides, and that on the limbs very dull. Crest much mixed with black. Backs of ears greyish fawn.

Skull with the nasals even more shortened than in *M. kirkii*, and the muzzle even longer and slenderer. In fact the whole appearance of the skull shows that the proboscis is much more developed than in any other member of the group. Front of the nasals only about level with the back of the middle premolar. Premaxillæ short, not nearly reaching the nasals. Basal length (male) 3·6 inches, greatest breadth 2·08, muzzle to orbit 2·04, tip of nasals to tip of premaxillæ 1·56.

Horns slender, those of the only adult Somali male we have seen—that presented to the British Museum by Mr. Bonham Christie—longer than usual, just over 3½ inches.

Hab. Plateau of Central Somaliland.

Günther's Dik-dik, as Thomas has named this species, after the distin-

guished naturalist who has lately vacated the post of Keeper of Zoology in the British Museum, is the third member of the genus found in Somaliland, but, as a rule, it inhabits a different district from *M. swaynei* and *M. phillipsi*, though Capt. Swayne thinks that in some cases their ranges may overlap. It belongs to the long-snouted section of the genus, like the two preceding species, but has its nose still more lengthened and proboscis-like.

Mr. Lort Phillips, so far as we know, was the first of the explorers of Somaliland to bring home an example of this Dik-dik. But when that

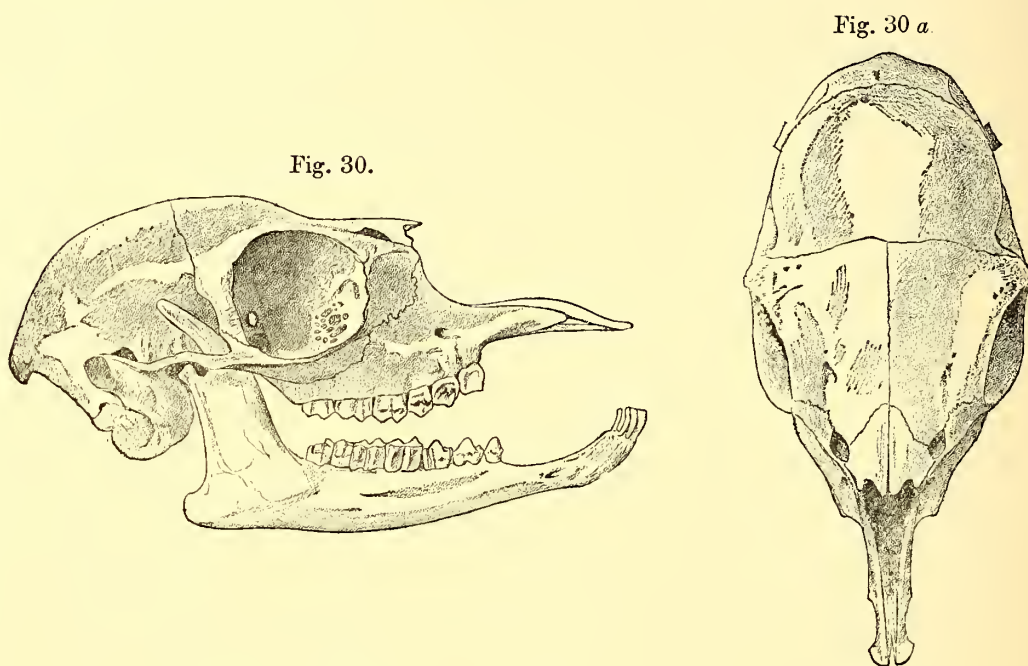


Fig. 30. Skull of *Madoqua guentheri* (side view, reduced).
(P. Z. S. 1894, p. 324.)

Fig. 30 a. Skull of *Madoqua guentheri* (from above, reduced).
(P. Z. S. 1894, p. 325.)

sportsman read his notes on the Somali Antelopes, obtained during his journey of 1884, before the Zoological Society, Selater did not venture to determine the single immature skull that was obtained, and in his subsequent notes on the same specimen, read in 1885, he referred it with some doubt to *M. kirki*.

It was not until 1894 that the additional examples of this Dik-dik received

by the British Museum from Capt. Swayne enabled Thomas to vindicate its claim to stand as a distinct species.

Capt. Swayne, in his lately published 'Seventeen Trips to Somaliland,' gives us the following notes on his experiences with the *Gussuli*, as the Somalis call this Antelope:—"I came on *Gussuli* for the first time about a day's journey south of Seyyid Mahomed's village in the Malingúr tribe, and found it to exist all over the Rer Amáden country. Its range coincides nearly with that of the rhinoceros, and it is found, like the latter animal, in parts of the Haud, where its ground overlaps with the range of the *Gol-Ass*. The *Gussuli* is if anything slightly larger than the *Gol-Ass*, and of a dead grey colour, with a white belly. The female appears to be much larger than the male; and it is a pretty safe rule, when trying to shoot the buck of a pair, to aim at the smaller one.

"The *Gol-Ass* and *Guyu* have short muzzles, while that of the *Gussuli* is very long, resembling the snout of a tapir. The two former Antelopes are found in pairs, seldom more than three being seen together. They give a shrill alarm whistle, uttered two or three times in quick succession, and are often a nuisance, being apt to disturb more valuable game. The *Gussuli* start up three or four at a time, and sometimes the undergrowth seems to be alive with them. These small Antelopes are very easily knocked over with a shot-gun and No. 4 shot. They give good sport in the evening, when they are liveliest, especially if followed silently and fired at with a rook-rifle, for they give plenty of chances when they stand to look back. The female exposes herself most, and is consequently most often shot."

Mr. Robert B. B. Christie, of Birling House, Maidstone, who has quite recently sent a skin of this Dik-dik to the British Museum from the interior of Somaliland, writes of it:—"The locality I obtained this specimen from was, as nearly as possible, lat. $7^{\circ} 30'$ N., long. $43^{\circ} 20'$ E. The country was a high broken rocky table-land, thickly covered with thorn forest with large areas of low thorn scrub-bush; in the latter the 'Long-nosed Dik-dik' is principally found; where there are patches of the spear-shaped aloe is also a favourite spot for this small Antelope on the banks of the nullahs and the lower parts of the low rocky hills. South of lat. $7^{\circ} 30'$ and west of long. $43^{\circ} 20'$ I found them numerous, becoming still more so the further I went west up to the Galla country. In August and September I noticed that they were generally in pairs, male and female, in company with others, from six

to twelve being the average number to find close together. I saw no very young ones at this time. When alarmed they dart away among the bushes and then turn round and stand motionless with head erect, and make a curious whistling hiss when startled. My servants told me that north of the Tug Jerad I should not find them ; and this proved to be the case, as I did not myself see them north of the Tug Fafau. This would make their northern limit about lat. $7^{\circ} 30'$. Although so small, they reminded me, by their quick darts among the thorn-scrub, of the South-African Duiker. I cannot tell the altitude of the district, as we had no instruments for the purpose, but I should say that it was about 3000 feet above the sea. The ordinary Dik-dik (probably *M. phillipsi*) was found in this district and was very numerous ; often you would see some of both kinds close together."

Graf Hoyos, in his recently published volume of travel and sport, 'Zu den Aulihan,' likewise mentions this species as occurring on the Somali plateau.

It is probable also that Günther's Dik-dik may extend into the interior of British East Africa, as two skulls lately examined by Thomas which were in Mr. F. J. Jackson's collection apparently belong to this species.

Our coloured figure of this Dik-dik (Plate XXXI. fig. 1) has been prepared by Mr. Smit from the typical specimens in the British Museum.

December, 1895.

SUBFAMILY IV. *CERVICAPRINÆ*.

General Characters.—Size large or moderate. Muzzle naked. Anteorbital glands entirely absent. Tail moderate. False hoofs well developed.

Skull smooth in front of the orbits and without any traces of anteorbital fossæ; auditory bulla large and swollen; median incisors expanded at their summits; a well-developed supplemental lobe in the first true molar of each jaw.

Horns present only in the male, medium-sized or long, not twisted, generally directed backwards at the base, and curving upwards and forwards towards the tips, occasionally with a serpentine curvature or quite straight, strongly ridged except at the tips.

Range of Subfamily. Africa south of Sahara.

The Waterbucks and Reedbucks, as these Antelopes are usually called, from the nature of the places to which they mostly resort, may be arranged together with the Rehbok, which clearly belongs to the same group, in three genera, as follows:—

- A. Size large or moderate. Horns large, elongate, curved. Fur straight, often coarse.
- a.* Size larger. No naked auricular patch. Tail long, slightly tufted. Premaxillæ reaching the nasals. Spurious hoofs well developed.
1. COBUS.
- b.* Size smaller. A naked auricular patch. Tail short and bushy. Premaxillæ not reaching the nasals. Spurious hoofs smaller.
2. CERVICAPRA.
- B. Size small. Horns small, upright, straight. Fur woolly. Tail short and bushy. Premaxillæ not reaching the nasals 3. PELEA.

GENUS I. COBUS.

	Type.
<i>Kobus</i> , A. Smith, Ill. Zool. S. Afr. pt. xii. pl. xxviii. (1840) . . .	C. ELLIPSIPRYMNUS.
<i>Kobus</i> , Gray, List Mamm. B. M. p. 159 (1843)	C. DEFASSA.
<i>Adenota</i> , Gray, P. Z. S. 1850, p. 129	C. KOB.
<i>Hydrotragus</i> , Fitz. Sitz. Ak. Wien, lix. pt. 1, p. 175 (1869). "ADENOTA KUL, Heuglin."	
<i>Onotragus</i> , Gray, Cat. Rum. B. M. p. 17 (1872)	C. LECHEE.

Size large. Horns (in male only) long, sublyrate, and ringed for the greater part of their length. Suborbital gland rudimentary. Skull with a deep hollow in the middle of the forehead; no lachrymal depression; a large lachrymal fissure; and the premaxillæ reaching the very long nasals. Tail long, reaching to the hocks, with a ridge of hair on the upper surface, and tufted at the end.

Distribution. Africa south of the Atlas.

Under *Cobus*, the proper Latin form of Sir Andrew Smith's term *Kobus* (taken, no doubt, from the so-called "Kob" Antelope), we follow Flower and Lydekker in uniting the genera *Cobus*, *Adenota*, and *Hydrotragus* of some authors.

The group thus formed contains 11 species which may be arranged in two sections as follows:—

Section I. (*Cobus*).

Larger in size; fur grizzled; neck maned.

A. Nape uniform with back; horns lunate, inclined forwards.

- a. With a white rump-band 58. *C. ellipsiprymnus*.
- b. Without a white rump-band.
 - a'. Ears shorter, rounded; eye-region not white.
 - a². General colour rufous 59. *C. unctuosus*.

*b*². General colour fuliginous.

Back lighter 60. *C. crawshayi*.

Back darker 61. *C. penricei*.

v. Ears longer, pointed; eye-region white . . . 62. *C. defassa*.

B. Nape conspicuously white; horns serpentine, inclined backwards.

63. *C. maria*.

Section II. (*Adenota*).

Size smaller; fur above uniform rufous; neck not maned.

A. Back of ears white 64. *C. leucotis*.

B. Back of ears rufous.

a. Horns shorter, not twice the length of the skull.

a'. Fore legs black in front; hair short.

Larger; white all round the eye 65. *C. thomasi*.

Smaller; white line above the eye 66. *C. kob*.

v. Fore legs uniform rufous; hair long 67. *C. vardoni*.

b. Horns longer, more than twice the length of the skull; legs in front

black 68. *C. lechee*.



J. Smit del & lith.

The Common Waterbuck
COBUS ELLIPSIPRYMNUS.

Hanshart imp.

Published by R.H. Porter.

58. THE COMMON WATERBUCK.

COBUS ELLIPSIPRYMNUS (OGILBY).

[PLATE XXXII.]

- Antilope ellipsiprymnus*, Ogilby, P. Z. S. 1833, p. 47; id. Penny Enc. ii. p. 88 (1834); Wagn. Schr. Säug. iv. p. 432 (1843); id. op. cit. v. p. 434; Peters, Säug. Mossamb. p. 189 (1852) (Zambesia).
- Aigocerus ellipsiprymnus*, Harr. Wild Anim. S. Afr. p. 71, pl. xiv. (1840); id. Wild Sport S. Afr. p. 387 (1838), ed. 5, p. 351 (1852).
- Kobus ellipsiprymnus*, Smith, Ill. Zool. S. Afr., Mamm. pls. xxviii. & xxix. (1840); Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846); id. P. Z. S. 1850, p. 130; id. Knowsl. Men. p. 15 (1850); id. Cat. Ung. B. M. p. 99 (1852); id. Cat. Rum. B. M. p. 15 (1872); id. Hand-l. Rum. p. 86 (1873); id. Ann. Mag. N. H. (3) iv. p. 296 (1859) (White Nile, *Petherick*); Gerrard, Cat. Bones Mamm. B. M. p. 239 (1862); Scl. P. Z. S. 1864, p. 101 (Uzaramo, *Speke*); Fitz. SB. Ak. Wien, lix. pt. 1, p. 176 (1869); Drummond, Large Game S. Afr. p. 426 (1875); Brehm, Thierl. iii. p. 224, fig. (animal) (1880); Flow. & Gars. Cat. Ost. Coll. Surg. p. 268 (1884); Jent. Cat. Ost. Leyd. Mus. (Mus. Pays-Bas, ix.) p. 131 (1887); id. Cat. Mamm. Leyd. Mus. (op. cit. xi.) p. 159 (1892); id. N. L. M. ix. p. 172 (1887); Nicolls & Egl. Sportsm. S. Afr. p. 44 (1892); True, Pr. U. S. N. M. xv. p. 471 (Taveta, B. E. A.) (1892).
- Antilope (Ægocerus) ellipsiprymna*, Less. N. Tabl. R. A., Mamm. p. 180 (1842).
- Kolus ellipsiprymnus*, Gray, List Mamm. B. M. p. 159 (1843).
- Aigoceros ellipsiprymnus*, A. Smith, S. Afr. Q. J. ii. p. 186 (1835).
- Cervicapra ellipsiprymnos*, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 195 (1846); id. Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 147 (1848).
- Heleotragus ellipsiprymnus*, Kirk, P. Z. S. 1864, p. 658 (Zambesia).
- Cobus ellipsiprymnus*, Buckley, P. Z. S. 1876, p. 284; Selous, P. Z. S. 1881, p. 758; id. Hunter's Wanderings, p. 218 (1881); Crawshay, P. Z. S. 1890, p. 651 (Nyasaland); Hunter, in Willoughby's E. Afr. p. 288 (1889); Scl. P. Z. S.

1891, p. 326, 1892, p. 471, 1893, p. 505, pl. xxxix. (female from life and young), et p. 727; **Flow. & Lyd.** Mamm. p. 340 (1891); **Lyd.** Field, lxxvii. p. 980 (1891); **id.** Horns and Hoofs, p. 223 (1893); **Ward**, Horn Meas. p. 86 (1892); **Thomas**, P. Z. S. 1893, p. 504; **Bryden**, Gun and Camera, p. 504 (1893); **Barkley**, P. Z. S. 1894, p. 131; **Swayne**, P. Z. S. 1894, p. 316 (Somaliland); **id.** Somaliland, p. 307; **Matschie**, Thierw. Ost-Afr. Säugeth. p. 123, fig. (animal) (1895).

Cobus, sp. inc., **Sci. P. Z. S.** 1892, p. 118 (Somaliland).

VERNACULAR NAMES:—*Waterbuck* of the English at the Cape and elsewhere; *Kringaat* or *Waterbok* of the Dutch; *Tumoga* of the Bechuanas; *Sidumuga* of the Amandebele; *Ee-tumaha* of the Makalakas; *Ee-kulo* of the Masubias; *Umkulamumbo* of the Makubas; *Mukulo* of the Batongas; *Gwelung-gwelee* of the Masaras (according to Selous); *Nakodzwi* or *Nyakodzwi* of the Ajawa and of the Anyanja; *Ipiva* of the Angoni; *Chuzu* of the Achewa, Atonga, Atembuka, Ahenga, and Anyika; and *Lipuwa* of the Ankonde in Nyasaland (*Crawshay*); *Kulu*, *Kuru*, or *Kuro* of the Swahilis (*Neumann*); *Balanka* of the Adone Negroes; *Balango* of the Somalis (*Swayne*).

Height about 39 inches; length of body 43 inches. Fur long and coarse, on back blackish, hairs whitish at the base; paler on the flanks, and passing into white on the middle line of the belly and on the inner sides of the hind limbs. A conspicuous white line across the rump reaches down to the inside of the flanks on both sides. Feet dark brown, with a white line round the hoofs and across the upper edge of the false hoofs, which are distinct. Sides of face and forehead dark brown, nose black; muffle moist, naked, black; line round the nose, lips, and chin, and line over the eye extending in front of eye, white. Irregular line round the neck greyish white. Ears hairy, inside white, outside black, brownish at the base, about $7\frac{1}{2}$ inches long. Tail dark brown, beneath white, about 11 inches long, hair beyond 4 inches.

Horns large and strong, lengthened, sublyrate, inclined backwards and then forwards at the tips; strongly ringed in front for three-fourths from their bases.

Female similar, but hornless; teats 4.

Hab. South Africa, from the Limpopo northwards, and along the coast through Nyasaland to German and British East Africa and to the Shebeyli River in Somaliland.

The Waterbuck, which is readily known from all the allied Antelopes by the white ribbon which passes over the rump and is carried down to the thighs on both sides, has, as we shall presently show, an extensive distribution in Africa, but was first described from a specimen obtained in the interior of South Africa. One of the early African travellers—Steedman—met with it in 1832 “about 25 days’ journey north of the Orange River between Latakoo and the western coast.” This somewhat vague locality, which was given by Ogilby when he described Steedman’s specimen before the Zoological Society in March 1833, probably indicates some part of Damaraland.

In 1840 Sir Cornwallis Harris figured this species—not, we must allow, very accurately—in his great work on the ‘Game and Wild Animals of South Africa.’ Although not found within the limits of Cape-land proper, the Waterbuck, Harris tells us, abounded in his days on the margins of the willow-grown Limpopo and its tributaries, in the “rippling waters of which it delights to lave its grizzled sides, immersing itself up to the chin during the heat of the day and rolling in its favourite soiling-pool for hours together.”

Sir Andrew Smith, who visited South Africa about the same period, likewise figures both sexes of this Antelope in his ‘Illustrations of the Zoology of South Africa,’ and not perhaps in a more satisfactory manner. He gives, however, a good description of both sexes of the Waterbuck and of its internal anatomy, together with an account of its habits, from which we extract the following particulars:—“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.

“When *Cobus 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 rush off at the same time, each making the best of its way without endeavouring, as some other of the Antelopes 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.”

As regards the present distribution of the Waterbuck in South Africa, we learn from Messrs. Nicolls and Eglinton that this stately Antelope is now only rarely met with in some of the unfrequented districts on the northern confines of the Transvaal in the neighbourhood of the Crocodile River and in the low country towards Delagoa Bay. On the coast-lands between the Crocodile River and the Zambesi, as also along the Zambesi itself, and in most of the streams of northern Matabeleland, these authors tell us it is still plentiful. In the low country to the north of Delagoa Bay, traversed by Mr. F. V. Kirby, F.Z.S., the Waterbuck, as he informs us in his ‘Haunts of Wild Game,’ is perhaps the commonest Antelope. “It is there everywhere met with along the banks of rivers and streams, and in and about rough stony kopjes near to water, in considerable troops, sometimes as many as forty running together.” Mr. Selous, in his “Notes on African Antelopes,” published in the Zoological Society’s ‘Proceedings’ for 1881, tells us that at that date the Waterbuck was still found on the Upper Limpopo and its tributaries, and on the Zambesi and on all its affluents eastwards of the Victoria Falls was very plentiful. Mr. Selous states that it is most partial to steep stony hills, and is often found at a distance of more than a mile

from the nearest river, to which, however, it always makes when pursued. "Though a heavy-looking beast it can clamber with wonderful speed and sureness of foot up and down the steepest hillsides."

In some notes on the Antelopes of the Transvaal, kindly furnished to us by Mr. H. M. Barber, the Waterbuck is spoken of as follows:—"This Antelope is perhaps the most common of all, being widely dispersed over the whole of Eastern Africa. At Beira and up the Pungwe River they are indeed plentiful, and are to be seen in large droves, often sixty and a hundred together. From the month of March till August the old bulls are usually separated from the cows, and I have seen as many as fifteen in a troop, yet single bulls are also very frequently found. These creatures all resort to the reeds and rushes and marshes at night to feed, and are very easily shot at daylight when thus occupied. Shortly after sunrise they usually stray away from the river to higher ground, where a clear view can be got all round so as to see any approaching enemy.

"It is not uncommon to find single bulls hidden in thickets either on the river banks or some distance away. When thus hidden they will often allow one to approach to within a few yards before breaking cover. If not much frightened they mostly trot away, and as a rule do not go very far before stopping, thus giving the hunter a chance of approaching them again. The Beira Waterbuck has by no means such large horns as those further down the coast on the Olifants River, near Delagoa Bay, and their horns have the peculiarity of being more upright and closer together.

"From the habits of these creatures they fall an easy prey to lions and leopards, who seem to live principally upon them. Their flesh is very coarse and stringy, and is only eaten by the hunter when nothing better can be got."

Passing to the north of the Zambesi we find Mr. Crawshay recording the Waterbuck as by far the commonest of the Antelopes which go in herds in Nyasaland; all over the Protectorate, he says, this Antelope is plentiful both on the east and west coast of the Lake and on the plains of the Shiré River. Mr. Crawshay adds the following particulars as to its habits in Nyasaland:—"Waterbuck are always found in greatest numbers on large swampy plains overgrown with coarse grass, tall reeds, and papyrus, where in the wet season it is almost impossible to get at them. Unlike other Antelopes, except the Reedbuck, they do not appear to leave the lowlands in

the rains, but keep to the plains all the year round; apparently they revel in almost impassable swamps, where only Elephants, Buffaloes, and Reedbucks care to stay, and I have occasionally followed them in mud and water almost waist-deep. In such places one has to undergo cruel torture from reed-cuts and mosquitoes, the latter of the fiercest type and even in broad noonday most vicious. Nature has provided the Waterbuck with a tougher hide and coarser hair than any other of its kind; but even these are not proof against the rank tall 'mabandi' grass and spear-like 'matele' reeds, and I have noticed that the legs of some of those that I have killed have suffered considerably, the skin on the fetlocks and pasterns being cut clean through."

Proceeding northwards to German East Africa we find *Cobus ellipsiprymnus* included in Matschie's volume on the Mammals of that colony. Herr Neumann has transmitted specimens to Berlin from Tanga, and Herr von Höhnel is given as an authority for its occurrence on the Pangani. Speke also met with it in Uzaramo, where it was numerous in the jungles along the Kingani River. In British East Africa, as we are told by Mr. Jackson, the Waterbuck is common everywhere south of Lake Baringo near fresh water, and is also found on many of the saltwater creeks on the coast. It is particularly plentiful on the banks of the Tana River, and in the Kilimanjaro district, where Sir John Willoughby and his party (see 'East Africa and its Big Game') and Dr. Abbott also met with it. "Like most bush-loving Antelopes," Mr. Jackson says, "it is fairly easy to stalk, but is a very tough beast, and takes a good deal of killing, if not hit in the right place. Its flesh, though much relished by the natives, is coarse and rank—indeed that of an old bull is almost uneatable." Mr. Gedge, who was at one time Mr. Jackson's companion in East Africa, writes to us that on one occasion in Buddu, a province of Uganda, he fell in with, and shot, a solitary buck of this species, of a light, almost fawn-colour, and adds that their colour varies from a light brown to an almost dark slate in different localities. He considers it one of the commonest Antelopes in British East Africa. In Somaliland the Waterbuck was found on the Webbe Shabeleh by Capt. Swayne and Col. Arthur Paget in the spring of 1894. In his excellent volume on his Somali journeys Captain Swayne tells us that he found it very plentiful all along the banks of the river as far as he followed the stream. "They lie up in the dense forest which clothes both banks along the water's

edge, and go out to feed in herds on the open grass-flats outside the belts of forest."

Whether the Waterbuck of the White Nile, referred by Gray and Heuglin to *Cobus ellipsiprymnus*, is of this species or belongs to *C. defassa*, is perhaps a little doubtful. We should be inclined to think that the latter reference is more likely to be correct.

In European menageries the Waterbuck is not usually to be met with, though there have been occasional specimens in some of the gardens in Holland and Germany. Sclater saw a pair at Amsterdam in June last. The Zoological Society of London received their first specimen of this Antelope (a male) in June 1890, and a female in May 1891. Both of these animals were obtained in British East Africa, and were presented to the Society by Mr. G. S. Mackenzie, F.Z.S. In 1893 the pair bred and a young female was born in the Menagerie on the 4th May, furnishing, so far as is known, the first instance of this animal having reproduced in captivity. The mother and young were figured by Smit in the Society's 'Proceedings' for 1893, and the figures are repeated in our Plate XXXII., where a head of the male of the same pair is also introduced in the background.

In the British Museum will be found a fine mounted pair of this Antelope from Mashonaland (*Selous*), and a good series of skulls from various localities, amongst which are examples from Nyasaland (*Sir H. H. Johnston*) and from the banks of the Webbe in Somaliland (*Swayne*).

August, 1896.



J. Smit del & lith

The Sing-sing .
COBUS UNCTUOSUS .

Hanhart imp

Published by R.H. Porter.

59. THE SING-SING.

COBUS UNCTUOSUS (LAURILL.).

[PLATE XXXIII.]

- Cervus sing-sing*, Bennett, Rep. Counc. Z. S. L. 1832, p. 5 (nom. nud.).
Antilope sing-sing, Waterh. Cat. Mamm. Z. S. L. p. 41 (1838).
Antilope koba, Ogilby, Penny Cycl. i. p. 79 (1834); id. P. Z. S. 1836, p. 103 (*nec* Erxl.).
Antilope unctuosus, Laurillard, Dict. Un. d'H. N. i. p. 622 (1847); Wagn. Schreb. Säug. iv. p. 434 (1843).
Antilope defassa, var. *senegalensis*, Wagn. Säug. v. p. 435 (1855).
Kobus sing-sing, Gray, List Mamm. B. M. p. 159 (1843).
Kobus sing-sing, Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846); id. Knowsl. Men. p. 15 (1850); id. P. Z. S. 1850, p. 131; id. Cat. Ung. B. M. p. 99 (1852); id. Cat. Rum. B. M. p. 15 (1872); id. Hand-l. Rum. B. M. p. 87 (1873); Gerrard, Cat. Bones, p. 239.
Cobus sing-sing, Scl. Cat. Vert. p. 144 (1883).
Adenota sing-sing, Fitz. SB. Ak. Wien, lix. pt. 1, p. 174 (1869).
Cobus defassus, Lyd. Horns and Hoofs, p. 224 (1893).
Cobus defassa, Scl. P. Z. S. 1892, p. 471.
Cobus unctuosus, Scl. P. Z. S. 1893, p. 727.

VERNACULAR NAME :—*Sing-sing* of the natives on the Gambia (*Whitfield*).

Height at shoulder from 39 to 45 inches. Body above sandy brown, hairs beneath whitish; flanks rather browner, in contrast to the conspicuous white rump. Upper part of the ears outside and their rims blackish, inside filled with long white hairs. Hairs of neck long and thin, rather paler in colour than the back. Front of face brown like the back, but rather darker; eye-stripe, line round the naked black muzzle, and chin white. Inner sides of limbs white. Feet below the knees blackish, with slight white lines round the

hoofs. Tail thin, above brown like the back, beneath white, tip black ; length about 14 inches.

Horns rising backwards nearly in a line with the forehead, then turning upwards, strongly ringed ; length along the curve about 26 inches.

Female. Similar to male but hornless, and slightly smaller in size.

Hab. Senegal and Gambia.

The Sing-sing of Western Africa appears to have first come to the notice of European naturalists in the year 1831, when a living pair of this Antelope were brought to England, of which one, we are told, went to the Surrey Zoological Gardens, and the other to the Zoological Society's collection in Regent's Park. In the 'Report of the Council of the Zoological Society,' read at the Anniversary Meeting in 1832, this animal is entered in the list of mammals exhibited in the Society's Gardens (drawn up, we believe, by Mr. Bennett) as the "Sing-sing Deer (*Cervus sing-sing*)." In Waterhouse's Catalogue of the Mammals in the Society's Museum published in 1838, the same animal (then in the Museum) is entered more correctly as "*Antilope sing-sing*," but the specific term is attributed to "Ogilby." In neither case, however, was any description added to the specific name. It is curious also that Ogilby, to whom the specific term "*sing-sing*" is attributed by Waterhouse, in his article upon Antelopes published in 1834 in the first volume of the 'Penny Cyclopædia,' did not use this name, but referred the animal in question, of which a very fair figure was given, to the "Koba" of Buffon, and called it "*Antilope koba*." Ogilby appears to have taken the same view in his remarks on certain Antelopes published in the Zoological Society's 'Proceedings' for 1836 ; but the "Koba" of Buffon, as we have already shown (Vol. I. p. 60), is a name of very uncertain application, and certainly not to be attributed to this species.

Gray, who likewise adopted the specific name "*sing-sing*" for this Antelope, appears first to have published a description of it under that name in the letterpress of the 'Knowsley Menagerie' in 1850, and in the 'Proceedings' of the Zoological Society for the same year. In the meanwhile, however, the name *Antilope unctuosa* had been bestowed upon it by Laurillard, in the first volume of the 'Dictionnaire Universelle d'Histoire Naturelle,' published in 1847, from a specimen living in the Menagerie of the Jardin des Plantes.

There seems no doubt, therefore, that we ought to adopt Laurillard's name for this Antelope, bestowed upon it because of its somewhat greasy fur.

Further confusion in its synonymy was caused from its being supposed by Gray and by many subsequent authors, nearly up to the present time, to be identical with the *Defassa* Antelope of Eastern Africa.

Gray, who probably derived his information from Whitfield, Lord Derby's collector, tells us that this animal is called "Sing-sing" by the negroes of the Gambia, who do not think their flocks of cattle will be healthy or fruitful unless they have a tame Sing-sing in their company. The English on the Gambia are said to call it the "Jackass Deer," and its flesh, we are told, is very strong, unpleasant, and scarcely palatable. Little, we regret to say, if anything, has been added to our knowledge of the habits of the Sing-sing in a state of nature and its range since the publication of Gray's notes. None of the recent explorers of the western districts of Africa appear to have met with it, so that we may presume that its proper home is Senegal and the Gambia.

In captivity, however, singularly enough, the Sing-sing, as it is habitually called, is by no means scarce, and specimens of it may usually be found in the larger Zoological Gardens of the Continent. In several of these, for example at Antwerp and Berlin, and we believe in the *Jardin des Plantes* at Paris, the Sing-sing has bred and produced young. In our own Zoological Gardens, as has been already stated, the first specimen of the Sing-sing was received in 1831 or 1832, but, so far as we can ascertain from reference to the Society's books, no other examples were obtained until 1867 and 1868, in which years two females of this species were added to the collection. In December 1885 an adult male was obtained, and in November 1886 an adult pair was received in exchange from the *Jardin des Plantes*, Paris.

Our illustration of the Sing-sing (Plate XXXIII.) has been prepared by Mr. Smit from the last-named pair, the female of which is still living in the Menagerie.

August, 1896.



J. Smit del & lith

Crawshay's Waterbuck
COBUS CRAWSHAYI

Hanhart imp.

Published by R. H. Porter.

60. CRAWSHAY'S WATERBUCK.

COBUS CRAWSHAYI, SCL.

[PLATE XXXIV.]

Cobus crawshayi, Sclater, P. Z. S. 1893, p. 723.

VERNACULAR NAME :—*Chuzwi* of the Awembas and the people of Itawa and Kabwiri (*Crawshay*).

Rather smaller in size than *C. ellipsiprymnus*, but generally resembling it, the animal being covered with the same harsh, lengthened, thinly spread hairs. But the colour is considerably darker, being of a dark iron-grey on the dorsal surface, which passes into blackish on the back of the neck, upper portion of the limbs, and tail. This colour gets gradually lighter and more greyish on the flanks, and passes on each side into whitish on the belly. There is no sign of the distinct rump-band which is so clearly marked on *C. ellipsiprymnus*, where it is bordered on each side by dark grey; but in the present species the whole anal disk is white, separated on the dorsal line by the dark medial streak which passes into the short black bushy tail. The whole length of the flat skin in the present example is about 56 inches, the length of the tail about 15 inches.

Horns hardly distinguishable from those of *C. ellipsiprymnus*. Those of type 24 inches in length along the curve, and strongly ringed to near their extremities, which are about 11·5 inches apart.

Hab. District of Lake Mweru in British Central Africa.

Mr. Alfred Sharpe, F.R.G.S., H.B.M. Vice-Consul in Southern Nyasaland, has twice made expeditions into the little-known district of Lake Mweru, which lies about 100 miles west of the south end of Lake Tanganyika. On

his second journey in 1892, of which he has given an excellent account in the 'Geographical Journal' for 1893 *, Mr. Sharpe first encountered specimens of this Waterbuck, of which he sent to Sclater the following particulars:—
 "The first time I saw this Waterbuck I was close to Lake Mweru on

Fig. 31.



Skull and horns of *Cobus crawshayi*.
 (P. Z. S. 1893, p. 727.)

my *second* journey there (Sept. 1892). I was only one day's march from Crawshay's Station † on the Lake, in a piece of rather dense bush, when my boys pointed out some beasts to me. From their bluish colour I thought at first they were buffaloes, but, on approaching nearer, I saw that they had the horns and general appearance of the Waterbuck (*Cobus ellipsiprymnus*) so common in Nyasaland. They were, however, not the Common Waterbuck, as, besides being much darker, they had no white ring on their buttocks. Before I could get a shot, however, they were away.

* "A Journey from the Shiré River to Lake Mweru and the Upper Luapula," Geogr. Journ. i. p. 524.

† At Rhodesia, at the extreme N.E. corner of Lake Mweru, 8° 39' 28" S. lat. See Geogr. Journ. i. p. 527.

“On reaching Crawshay’s house at Rhodesia on the following day, one of the first things he said to me was, ‘Now I am going to tell you about a new beast that I have found here.’ I replied at once, ‘I know what it is—a new Waterbuck.’ And so it was! Subsequently I obtained and sent you home an imperfect skin of this animal.”

Mr. Sharpe’s skin of this Antelope reached Sclater along with others forwarded by Mr. Crawshay, and furnished the materials for the description of the new species which was read by Sclater before the Zoological Society in November 1893. Sclater proposed to call the new Waterbuck after Mr. Crawshay, who was its first discoverer, and who, besides this, has written a series of excellent field-notes on the Antelopes of Nyasaland*.

A letter subsequently received by Sclater from Mr. Crawshay contained the following remarks on his new discovery:—“Amongst the specimens sent to you the Waterbuck perhaps most interests me, as I fancy it must be of a new species. It most resembles *Cobus ellipsiprymnus*—the Common Waterbuck of Nyasa and Southern Africa—and may be termed the Waterbuck proper of Mweru. It is the ‘*Chuzwi*’ of the Awemba and the people of Itawa and Kabwiri, as opposed to the much more common and numerous red Vardon’s Waterbuck (*Cobus vardoni*), which is known by the same people as ‘Sayula.’

“In make and shape the Mweru buck is quite similar to *C. ellipsiprymnus*, and has the same shaggy coat and powerful ovine scent, but in size it is a trifle smaller, and in habits apparently it is rather different.

“In colouring and marking there exists a very appreciable difference, especially in the marking. The back and flanks of the Mweru species are of dark steel-blue, verging almost on black. The face, knees, hocks, fetlocks, and coronets of the feet are quite black—a glossy coal-black. Over the rump the broad crescent-shaped band of white found in *C. ellipsiprymnus* is absent, the bluish black on the rump gradually toning down into dirty grey at the root of the tail and between the haunches.

“Thus ‘Kringaat,’ the name by which the Dutch of Southern Africa know the Waterbuck, would not be characteristic of the Mweru animal.

“In the case of *C. ellipsiprymnus* running from one, the white band over the rump is so conspicuous a feature as to catch the eye in itself, and draw attention to the form of the animal disappearing between the trunks of trees,

* “On the Antelopes of Nyasaland,” by Richard Crawshay, P. Z. S. 1890, p. 648.

where otherwise in many instances it would escape notice. But with the Mweru Waterbuck running from one, the absence of the white band is at once apparent. I noticed the deficiency before even examining a specimen at close quarters.

“The ‘Chuzwi’ of Mweru is not very plentiful in either Itawa or Kabwiri; all told, during the year I was at Mweru, I doubt if I saw fifty, though of Vardon’s Waterbuck I saw many thousands. It is generally met with in hilly forest country—sometimes on steep rough ground—where Vardon’s Waterbuck does not go, and where one would scarcely expect to see *C. ellipsiprymnus*.

“I once came upon a troop of five females on the very topmost ridge of the mountains overlooking the Lualaba River—at the most northern point of Mweru Lake—where there were ‘Klipspringers,’ and where climbing with a rifle was anything but easy.

“In all I shot four specimens, two males and two females, all full-grown. Of these I preserved the complete skulls and hides of the males and the hide of one female.

“The larger of the two males was a solitary animal, shot in the forest, near Mputa’s, Kabwiri, east coast of Lake Mweru, September 10th, 1892. The horns measured on the straight $22\frac{1}{4}$ inches, on the curve $24\frac{5}{8}$ inches.

“The other male, which was a smaller animal but had as good horns, and one of the females (the one preserved) were shot on the cliffs north of Karemwi’s, Kabwiri, east coast of Lake Mweru, July 27th, 1892.

“The horns of this male measured on the straight also $22\frac{1}{4}$ inches, on the curve $24\frac{1}{2}$ inches.

“The second female I shot for meat on the left bank of the Choma River, about due north of Lake ‘Mweru ya Matipa’—the ‘Mweru of Mud,’ as the natives know the smaller Lake Mweru to the east of Lake Mweru proper—October 27th, 1892. The skins of these animals subsequently lost much of their dark colouring, a considerable quantity of the hair coming out (as it will do with the very movable coats of Waterbuck) and the remainder becoming lighter in drying.”

Our figure of this Waterbuck (Plate XXXIV.) has been taken by Mr. Smit from the typical male specimen now in the British Museum.

August, 1896.



J. Smit del & lith

Penrice's Waterbuck.
COBUS PENRICEI.

Hanhart inv.

Published by R. H. Porter.

61. PENRICE'S WATERBUCK.

COBUS PENRICEI, ROTHSCH.

[PLATE XXXV.]

Cobus penricei, Rothsch. Nov. Zool. ii. p. 32, pl. iv. fig. 1 (1895); Bryden, Field, vol. lxxxvii. p. 653 (April 25, 1896).

VERNACULAR NAME :—*Kring-hart* of the Trek-Boers of Benguela.

Of about the size of *C. ellipsiprymnus* and its allies (height at shoulders 45 inches), but at once distinguishable by its intensely blackish colour. Muzzle whitish; face black, with rufous hairs between the horns. Stripe over eye white. Ears outside rufous brown, with blackish tips and edges, inside white. Sides of face, neck, and body deep brownish black, plentifully interspersed with reddish-brown hairs, which are white at the base and give the effect of a "blue-roan." This colour is more conspicuous on the belly, where the hairs are longer, but much less so on the legs and hind half of the back, which parts are almost uniform brownish black. A slight white ring round the hoofs. Tail above black, beneath white. A large patch of white on the upper throat.

Horns shorter and stouter than in the allied species; length along the curve in three specimens 19, $24\frac{1}{2}$, and 28 inches.

Female similar, but without horns, and ears less rufous and more brown.

Hab. Interior of Benguela, Angola.

This Waterbuck is certainly very closely allied to Crawshay's Waterbuck, and it is not easy to point out any material points of difference. The only specimens yet obtained being at Tring and those of *C. crawshayi* in the

British Museum, we have not been able to make a direct comparison. But it would appear that the present animal is generally more blackish in colour and has shorter and stouter horns. Besides this, the respective localities of the two forms are so remote that it would not be safe to unite them without evidence that the same animal occurs in intermediate localities.

Mr. G. W. Penrice, the discoverer of this Antelope, and after whom it has been named by Mr. Rothschild, is resident, we are informed, at Cabo Submarino, near Benguela, the port and capital of the Province of the same name in the Portuguese Colony of Angola. During his hunting excursions in the interior Mr. Penrice came across specimens of it "near Bongo, on the banks of the Kuvali River, about one hundred miles south-east of Benguela and fifty miles from Caconda." In a letter to Mr. Rowland Ward, Mr. Penrice says that it is "pretty numerous" in this locality, but "is not found nearer the coast." He adds that these Antelopes "have a strong smell, and that he has often smelt them before sighting them. As a rule the bulls and cows are found in separate troops."

An account of Penrice's Waterbuck has been given by Mr. H. A. Bryden, in an article published in 'The Field' of April 25th last; but few additional particulars are furnished concerning it, although a list of other hunting-trophies obtained by Mr. Penrice in the same district is added. As regards Benguela, Mr. Bryden tells us that it is a most difficult country to hunt in, it being almost impossible to keep horses alive there, and the bush being very thick and nearly impenetrable, while the climate, especially near the coast, is not healthy. Nevertheless, we hope it may not be long before we get from some of our energetic sportsmen further information respecting this little-known species of Waterbuck.

Our Plate, which represents both sexes of it, has been prepared by Mr. Smit, by the kind permission of Mr. Rothschild, from the typical specimens in the Tring Museum.

August, 1896.



Wolfdel. J. Smit lith.

The Defassa Waterbuck.
COBUS DEFASSA

Hanhart imp.

Published by R. H. Porter.

62. THE DEFASSA WATERBUCK.

COBUS DEFASSA (RÜPP.).

[PLATE XXXVI.]

- Antilope defassa*, Rüpp. Neue Wirbelth. p. 9, pl. iii. (1835-40); Reichenb. Säugeth. iii. p. 133 (part.); Wagn. Schreb. Säugeth. iv. p. 423 (1844).
- Redunca defassa*, Rüpp. Verz. Senck. Mus., Säugeth. p. 182 (1842).
- Cervicapra defassa*, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 195 (1846); id. Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 147 (1848).
- Kobus defassa*, Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846); Heugl. Ant. u. Büff. p. 15 (1863); id. Reise, ii. p. 109 (1877); Fitz. SB. Ak. Wien, lix. pt. 1, p. 176 (1869); Matschie, Sitz. Ges. nat. Fr. 1892, p. 134.
- Kobus defassus*, Jackson, in Badm. Libr., Big Game Shooting, pp. 285, 304; Jent. Cat. Ost. Leyd. Mus. (Mus. de P.-B. ix.) p. 130.
- Cobus defassus*, Flow. & Lyd. Mamm. p. 140; Lyd. Horns and Hoofs, p. 224 (1893) (partim).
- Cobus defassa*, Matschie, Säugeth. Ost-Afr. p. 124 (1895); ScI. P. Z. S. 1893, p. 727; id. P. Z. S. 1895, p. 868 (Lake Stephanie).
- Kobus sing-sing*, Gray, List Mamm. B. M. p. 159 (1843) (partim).
- Kobus sing-sing*, Gray, Cat. Ung. B. M. p. 99 (1852); id. Cat. Rum. B. M. p. 15 (1872); id. Hand-l. Rum. B. M. p. 87 (1873); id. Knowsl. Men. p. 15 (1850) (partim).
- Kobus singsing* (?), ScI. P. Z. S. 1864, p. 101 (Uganda, *Speke*).
- Ant. defassa*, var. *abyssinica*, Wagn. Schreb. Säug. v. p. 435 (1855).

VERNACULAR NAMES:—*Defassa* (Amharic) of the Abyssinians; *Om hetehet* (Arabic), converted by Baker into *Mehedéhet*; *Bura* or *Chora* in Kordofan; *Kuru* and *Nsumma* in Uganda.

Size large, about 46 to 50 inches in height at the withers. Above rufous brown, hairs at base greyish white; belly and inner side of limbs white; rump

white. Face above chestnut-red, sides of face and eye-stripe white. Ears long (about 8 inches), pointed, rufous at back, white inside; line round nose and chin white. Hairs on neck long and harsh. Feet below knees blackish brown, passing into black towards the hoofs; tail above like the back, otherwise whitish, about 12 inches long, tuft of hairs beyond 4 inches.

Female similar but without horns; teats four (*Rüppell*).

Hab. Western Abyssinia, Sennaar, Kordofan, and the Nile valley, south to Uganda and British and German East Africa.

Amongst the many zoological discoveries made by the great naturalist and traveller Dr. Edward Rüppell in Abyssinia and the surrounding lands about sixty years ago was the present species of Antelope, which he proposed to call "*defassa*" from its Amharic name. Rüppell published a figure and description of it in a work which he called 'Neue Wirbelthiere zu der Fauna von Abyssinien gehörig,' and dedicated to the Senate of his native State, the Free City of Frankfort-on-the-Main. After an excellent description of both sexes of *Antelope defassa*, Rüppell tells us that it lives in the grassy valleys of Western Abyssinia, round the Lake of Dembea, where it is generally met with in small families of from four to six individuals. Amongst these there is never more than one wholly adult male. What it prefers for food are the leaves and seed-stalks of *Holcus sorghum* besides grasses of every sort. Its gait is rather unwieldy, but it is not very timid. This Antelope, Dr. Rüppell continues, is also met with in Sennaar and Kordofan, where its common name is "Bura"; skins from these districts examined by him in Cairo were recognized as being similar to the Abyssinian "*Defassa*." The Abyssinians do not often hunt this species, because so few of them care to eat meat, and its hide is of little value. It is, however, said to be the habitual food of the lions of the district that it inhabits. Rüppell's specimens of both sexes are now in the Senckenbergian Museum at Frankfort, where Sclater has examined them.

Another great explorer of Eastern Africa, Th. v. Heuglin, met with this Antelope in the bushy and woody valleys of the Qualabat and Mareb, and thence eastwards to where the mountain-range falls off into the lowlands. He found it generally less difficult to approach than other Antelopes, and had many opportunities of shooting it at morning and evening amongst the high grasses that border the woods.

Sir Samuel Baker, in his 'Albert Nyanza,' alludes to this species as the "Mehedéhet" and gives a figure of the head in the second volume of his work. On arriving at the banks of the River Asua, which flows into the Nile north of the Victoria Nyanza, Baker tells us (*op. cit.* vol. ii. p. 15) that he

Fig. 32.



Head and foot of "Nsumma Antelope" (*Speke*).
(P. Z. S. 1864, p. 102.)

"observed a herd of these beautiful Antelopes feeding upon the rich but low grass of a sand-bank in the very middle of the river." He managed to

secure one of them, which was found to weigh about 500 lbs., and was sufficient to supply a good dinner to the whole party.

To *Cobus defassa*, we now believe, must be referred the "Nsumma" of Uganda and Madi, a head of which was brought home from his celebrated journey by Speke, and was doubtfully referred by Sclater, in his account of Speke's Mammals, to the Sing-sing. This head is still in the British Museum, and on comparison of it with a stuffed specimen of the present species shows few points of difference.

Speke notes that the "Nsumma" lies concealed "in the high grasses in the daytime, and only comes out to feed in the evening. The males are often found singly, but the females live in herds. It does not stand so high as the Waterbuck, but is rather more stoutly built."

We believe that the "Sing-sing" of Jackson, in the volumes of the Badminton Library on Big Game Shooting, is also referable to the present species. Mr. Jackson speaks of it as follows:—"The Sing-sing (also known to the natives as 'Kuru') resembles the Waterbuck in habits, but is easily distinguished from it by its darker colour, and by a considerable amount of rufous hair on the top of the head, as well as by an entirely white rump in place of the elliptical white band of the other. The horns are also, as a rule, longer and more massive than those of the Waterbuck, the horns of the latter never growing to the size that they do in South Africa. It is not met with until near Lake Baringo, and extends west to Uganda, where it was obtained by Captains Speke and Grant. It is fairly plentiful in the open bush-country of Turkevel; but it does not appear to go about in such large herds as the Waterbuck. I have never seen more than five or six together, and more often a bull and two or three cows."

On the river running from the north into Lake Stephanie, Dr. Donaldson Smith met with a Waterbuck during his recent journey. Sclater has examined one of the heads that he brought home (see P. Z. S. 1895, p. 868) and has referred it without doubt to the present species.

In German East Africa, Herr Matschie recognizes *Cobus defassa* as well as *C. ellipsiprymnus* and gives several localities for it on the authority of Neumann and Böhm. The former met with it on the west shores of the Lake Victoria, and the latter near Lake Tanganyika and in Ugalla and Uganda. Böhm in his manuscript says that this Waterbuck reminds one much of a Stag in its appearance and mode of life. It is generally met with in largish

herds in which there is only one old male and several younger ones. Sometimes these herds are without females in their company, and occasionally old males are seen alone. They are very fond of water and are often seen standing deep in the mud of the rivers. At the same time they are frequently met with in dry forest and in open savannahs far from rivers. Like our Red Deer, they generally retire into the wood early in the day, even before sunrise, but on the other hand come out again into the open much earlier in the evening. When disturbed in the open country they retire straight into the wood.

Herr Matschie points out that the present species differs from *C. unctuosus* in having the face of a bright rufous colour, and is of opinion that Dr. Noack and Dr. Pagenstecher have wrongly referred the specimens of this species obtained by several German explorers to *C. unctuosus* and *C. ellipsiprymnus*.

Our figure of this species (Plate XXXVI.) was put upon the stone by Smit from an original sketch by Wolf which is now in the possession of Sir Douglas Brooke. Unfortunately we have been unable to make out from what specimen it was originally prepared.

August, 1896.



Wolf del. J. Smit lith.

Mrs Gray's Waterbuck.
COBUS MARIA.

Hanhart imp.

Published by R. H. Porter.

63. MRS. GRAY'S WATERBUCK.

COBUS MARIA, GRAY.

[PLATE XXXVII.]

Kobus maria, Gray, Ann. Mag. N. H. (3) iv. p. 296 (1859) (Bahr-el-Gazal, *Petherick*); id. Cat. Rum. B. M. p. 16 (1872); id. Hand-l. Rum. B. M. p. 87 (1873); *Gerrard*, Cat. Bones Mamm. B. M. p. 239 (1862); *Petherick*, Travels in Centr. Afr. i. p. 159 (1869).

Cobus maria, Ward, Horn Meas. p. 91 (1892); *Lyd.* Horns and Hoofs, p. 224 (1893). " *Adenota megaceros*, Heuglin," *Fitz.* Sitz. Ak. Wien, xvii. p. 247 (1855), nomen nudum; *Heuglin*, Ant. u. Büff. N.O.-Afr. (N. Act. Leopold.-Carol.) xxx. pt. ii. p. 14, t. ii. figs. 7, 8 (1863) (descript. satis acc.); *Marno*, Reise in der Aegypt. Aequat.-Prov. p. 40 (1878).

Kobus megaceros, *Marno*, Reise im Geb. d. blauen u. weissen Nil, p. 387 (1874).

VERNACULAR NAMES:—" *Abohk*" of the Dinkas; " *Til*" of the Nuehrs.

Height at shoulders about 35-40 inches. General colour dark reddish brown. Forehead and nose dark brown, as are also the inner sides of the fore limbs and breast. Chin and a narrow band along the upper lip white, the latter continuing upwards behind the nostrils and there passing into brown. A spot in front of the eyes and the space between the eyes and ears whitish. This spot is separated from the superciliary stripe by a dark band descending from the base of the horn to the eye. Inside of ears whitish. A white band of hair on the hinder part of the head extends on both sides to the ears and forms a crescent-shaped mark; it then descends the back of the neck and widens into a large white patch above the shoulders. Middle of belly and inner sides of the hind limbs white. Tail long, above like the back, beneath white, tufted end black. A white line round the hoofs. Toes rather longer and stronger than in *C. leucotis*. Hairs of the cheeks and fore

neck elongated and mane-like as in *C. ellipsiprymnus*, and muffle broad and naked as in that species. Size between that of *C. leucotis* and *C. lechee*.

Horns strongly ringed, long and strong, projecting backwards, diverging in the middle, and approximating again towards the tips. Length along the curve (type specimen) about 27 inches, in a straight line from back to point $19\frac{1}{4}$ inches, distance between tips $13\frac{3}{4}$ inches.

Female similar, but hornless, and not so deep in coloration.

The dark, almost chestnut-red general colour and conspicuous white patch on the upper back and nape render this Antelope quite unmistakable.

Hab. Swamps of the White Nile and adjoining rivers.

There can be no question that the great traveller and naturalist Theodor von Heuglin was the first discoverer of this splendid Antelope, which is one of the most strongly marked and most brightly coloured of the whole group. Unfortunately, however, Heuglin, though he gave it a name in 1855, did not take the trouble to publish a description of it until 1863, and meanwhile, as we shall presently see, it was described and named elsewhere.

The native country of *Cobus maria*, as this Antelope must be called, according to the law of priority now generally followed by naturalists, is the swamps and morasses traversed by the White Nile and the Sobat, Bahr-el-Gazal, and Lower Kir, which are its affluents on the right bank. Here Heuglin tells us it lives in large troops. After describing it he adds that, as in its allies, the hairs on the coat of the male are rather long and on the neck form a kind of mane. The white marking on the sides of the head varies much in form and extent, and is often tinged with reddish or yellowish. The same is the case with the ears. The long horns are twisted in a remarkable manner, so that from the side and below they look rather cork-screw like in shape. The tail, especially at the end, is more tufted and more strongly haired than in other Antelopes of this genus, and reaches down nearly to the heels.

On his return to Vienna about the year 1854, besides a series of skins and skulls, Heuglin brought with him an adult living female of this Antelope, which was placed in the Imperial Menagerie at Schönbrunn, but did not

long survive. Its arrival was chronicled by Fitzinger in his Report to the Academy of Sciences of Vienna upon the living animals brought home for the Imperial Menagerie at Schönbrunn by Heuglin, and its proposed name was given as "*Adenota megaceros*, Heuglin," but unfortunately no sort of description was added. Nor, so far as we can make out, did Heuglin publish any characters of his *Adenota megaceros* until the appearance of his article on the Antelopes and Buffaloes of North-east Africa, which was issued by the Imperial Leopoldino-Carolinian Academy in 1863.

Fig. 33.



Head of *Cobus maria*, ♂.
(Copied from Ann. Mag. N. H. (3) iv. p. 297.)

In the meanwhile, however, another explorer of the Nile region had found his way home and brought with him heads of both sexes of the same Antelope. This was Consul Petherick, who after fifteen years passed in these districts * returned in 1859, and brought with him a collection of heads and horns of animals, which were acquired by the British Museum through Mr. Samuel Stevens, a well-known dealer in objects of Natural History at that period. Amongst these were good heads of both sexes of the present

* See his work 'Egypt, Sudan, and the White Nile,' London, Blackwood & Co., 1861.

Antelope. The late Dr. Gray lost but little time in preparing descriptions of these striking objects, which were published in the 'Annals of Natural History' for October of that year. We are indebted to the proprietors of that excellent journal for allowing us to copy the wood-block (fig. 33), which represents the head of the male brought home by Petherick. It thus came to pass that Dr. Gray's name "*maria*," given in honour of his wife, "who assisted him in his studies," takes precedence over Heuglin's more appropriate designation "*megaceros*."

Consul Petherick returned to the White Nile in 1861, on a mission to meet Speke and Grant on their journey northwards. In the first volume of his narrative of this second expedition* (p. 159) he records having killed a female of this same Antelope on June 15th, 1862, in the country of the Kitch negroes on the White Nile, and adds a figure of the head of the male, which was doubtless taken from the specimen sent home on the former expedition.

Several of the more recent travellers in the Nile districts appear to have also met with this Antelope. Marno ('Reise im Gebiete des blauen und weissen Nil,' 1874, p. 387) tells us that he saw a herd near Dabbed Hanakhi on the Bahr Seraf, in 1872, and that it is not uncommon there, and is called "*Til*" by the natives. In the course of his second journey (see 'Reise in der Aegyptischen Aequatorial-Provinz') Marno met with it again in the country of the Kitch negroes on the Bahr-el-Gebel, amongst the beds of papyrus and ambatch, and gives us a figure of its head, which, although not very well drawn, is unmistakable. Schweinfurth in his 'Im Herzen von Afrika,' p. 68, also claims to have seen large herds of this Antelope on his voyage up the White Nile in about 12° 30' N. lat., but did not bring home any specimens. Hartmann and von Barnem, as we are kindly informed by Herr Matschie, likewise met with this species on the White Nile and secured a pair of horns which are now in the Berlin Museum.

But the only perfect examples of this scarce Antelope yet obtained are those of Heuglin, of which two (an adult male and young one) are in the Vienna Museum, and a third (an adult male) at Berlin. Herr Matschie has most kindly supplied us with full notes on the last-named specimen, which has also been examined by Sclater.

* 'Travels in Central Africa and Explorations of the Western Nile Tributaries,' by Mr. and Mrs. Petherick. 2 vols. London: Tinsley Bros., 1869.

In his 'Horns and Hoofs,' Mr. Lydekker casts some doubt as to the real distinctness of *C. maria* from *C. leucotis*, but on this point we can assure him there is no room for hesitation. No one who examines our beautiful picture of this species (Plate XXXVII.), drawn by Smit from Mr. Wolf's original sketch, will for a moment deny its perfect distinctness from *Cobus leucotis* and from every other known species of the group.

August, 1896.





W. F. ael, J. Smil del.

The White-eared Kob
COBUS LEUCOTIS.

Hunhart imp.

Published by R. H. Porter.

64. THE WHITE-EARED KOB.

COBUS LEUCOTIS (LICHT. ET PET.).

[PLATE XXXVIII.]

- Antilope leucotis*, Licht. et Pet. MB. Ak. Berl. 1853, p. 164; iid. Abh. Ak. Berl. 1854, p. 96, pl. iii. (Sobat, Sennaar); Schweinf. Im Herzen v. Afr. i. pp. 213, 214, ii. p. 533 (1874) (Bahr-el-Djur); Huet, Bull. Soc. Acclim. 1887, p. 38; Emin, Reise-brief., pp. 99, 226 (1888); id. Transl. pp. 101, 130, 228; Junker, Travels in Afr. p. 441 (1891).
- Kobus leucotis*, Gerrard, Cat. Bones Mamm. B. M. p. 239 (1862); Gray, Cat. Rum. B. M. p. 16 (1872); id. Hand-l. Rum. B. M. p. 87 (1873).
- Hydrotragus leucotis*, Fitz. SB. Ak. Wien, lix. 1, p. 175 (1869).
- Cervicapra leucotis*, Baker, Ismailia, ii. p. 531 (1874) (Shooli country).
- Cobus leucotis*, Ward, Horn Meas. (1) p. 91 (1892), (2) p. 124 (1896); Lyd. Horns and Hoofs, p. 224 (1893).
- Adenota lechee*, Gray, Ann. Mag. N. H. (3) iv. p. 296 (1859) (Bahr-el-Gazal, *Petherick*) (nec ejusd. Knowsl. Men. 1850).
- Adenota leucotis*, Heugl. Ant. u. Büff. N.O.-Afr. (N. Act. Leop. xxx. pt. ii.) pp. 12, 13, pl. i. fig. 4 (head), 1863 (Sobat R.).
- Adenota kul* et *A. wuil*, Heuglin, op. cit. pp. 12, 13 (?).

VERNACULAR NAMES:—*Adjel* of the Denkos; *Kul* and *Wuil* of the Djengs (*Heuglin*); *Teel* of the Shoolis (*Baker*); *Kala* of the Niam-Niams (*Junker*).

Size smaller and form slenderer than in any of the species hitherto described (height at withers about 34–35 inches). General colour dark brownish fawn; a large patch surrounding the eyes and ears, including the whole of the backs of the latter, another on the muzzle, chin, and upper throat, and the whole of the chest and belly pure white, strongly contrasting with the dark colour of the back. Front of legs blackish; a white ring round the pasterns, just above the hoofs.

Horns slender and graceful, attaining a length of 19 or 20 inches, though but little more than 6 inches in circumference.

Female similar, but without horns.

Skull measurements (♀):—Basal length 9·75 inches, greatest breadth 4·15, orbit to muzzle 6·45.

Hab. Upper Nile, region of the Sobat, Bahr-el-Gazal, and their affluents, extending into the Niam-Niam country.

The first example of this Antelope to reach Europe was transmitted to the Royal Zoological Museum of Berlin by Werne, a well-known German artist and traveller, from the River Sobat in Sennaar. It was characterized as belonging to a new species by Lichtenstein and Peters in a communication made to the Royal Academy of Sciences of Berlin in 1853, and in the following year was carefully described and figured by the same authors in the 'Denkschriften' of the Academy. The type specimen, an adult male, remains mounted in the gallery of the Berlin Museum (where Sclater has examined it), and is, we believe, that from which the original water-colour drawing of Wolf for the accompanying Plate was prepared.

The next traveller who appears to have met with the White-eared Kob was Consul Petherick, who brought home a skin, two heads, and several skulls of this species on his return from the Bahr-el-Ghazal in 1859. These specimens, which are in the British Museum, were at first incorrectly referred by Gray, in his article upon Petherick's Mammals, to *Cobus lechee*, which, however, is quite a distinct species and never ranges nearly so far north.

Besides the Berlin and British Museums the only other collection that, so far as we know, contains a perfect example of this rare Antelope is the Royal Museum of Turin. Here, as Count Salvadori kindly informs us, there is a fully adult male example of *Cobus leucotis* mounted in the gallery, and standing about 35 inches high at the withers. This specimen was originally received alive from the Sudan, along with other animals, by King Victor Emmanuel, and on its death was presented to the Turin Museum.

Heuglin, in 1861, included this species in his list of the Antelopes and Buffaloes of North-east Africa, and gave a figure of its head, designating the Rivers Sobat and Bahr-el-Ghazal as its localities. It is probable that Heuglin's "*Adenota kul*" and "*A. wuil*," described as new in the same memoir, should also be referred to the present species; but as the descriptions

are very meagre and, so far as we know, no specimens of these problematical species are extant, this must remain a matter of some uncertainty.

Since Heuglin's time several other African explorers have met with this Antelope, but we are not aware that, with the exception of Sir Samuel Baker, they have brought home specimens. In the Appendix to 'Ismailia,' Sir Samuel placed the name of the present species in the list of animals met with in the Shooli country on the Upper Nile, and Selater (who examined the specimens brought home by Baker) believes that there were some heads of this Antelope amongst them. Harnier's description of an Antelope obtained in March 1861, during his voyage up the White Nile (Reise, p. 52, 1866), is apparently referable to *Cobus leucotis*. Dr. Schweinfurth, in 'Im Herzen von Afrika,' mentions *Antelope leucotis* in several places, and in his first volume gives fairly accurate woodcuts of the heads of both sexes. On the lower flats of the rivers of the Niam-Niam country, Dr. Schweinfurth found this Antelope by far the commonest species in the dry season, being met with in large herds of from 100 to 300 individuals. During the rainy season, he tells us, it resorts to the higher forest-bushes and separates into small troops for pairing. He also mentions as a peculiarity of this elegant animal that when running away it springs up into the air after the manner of the South-African Spring-buck, and shows its white rump. The flesh of *Antelope leucotis*, he tells us, is one of the best for culinary purposes. The female he describes as being very like that of *Cervicapra arundinacea*, but recognizable at once by the black on the front limbs.

Emin, in his 'Reise-briefen,' refers in several passages to *Antelope leucotis* as met with on the Upper Nile. Dr. W. Junker, in his 'Travels in Africa,' records the capture of a "Kala Antelope, *Antelope leucotis*," as far south as the Upper Welle (about 3° 30' N. lat.), near Mount Madyanu, and gives a figure of it in his text. Looking to this and to what Dr. Schweinfurth has told us, we must assume that the present Antelope extends beyond the water-parting of the Nile and Congo down to the banks of the Welle.

December, 1896.



J. Smit del. & lith.

Thomas' Kob.
COBUS THOMASI.

Hauhart imp.

Published by R.H. Porter

65. THOMAS'S KOB.

COBUS THOMASI, NEUMANN.

[PLATE XXXIX.]

- Kobus leucotis*, *Scl.* P. Z. S. 1864, p. 103 (nec auctt.) (Uganda, *Speke*).
- Kobus kob*, *Ward*, *Horn Meas.* p. 91 (1892); *Lugard*, *E. Africa*, i. p. 538 (1893) (Buddu and Kavirondo); *Jackson*, *Big Game Shooting*, i. p. 296 (1894); *Scott Elliot*, P. Z. S. 1895, p. 341 (Albert-Edward Lake).
- Adenota kob*, *Matschie*, *Saug. Deutsch Ost-Afr.* p. 126 (1895).
- Adenota koba*, *Matschie*, *op. cit.* p. 147 (1895).
- "*Cobus thomasi*, *Neumann*," *Sclater*, P. Z. S. 1895, p. 868 (Kavirondo); *Ward*, *Horn Meas.* (2) p. 128 (1896).
- Adenota thomasi*, *Neumann*, P. Z. S. 1896, p. 192.
- Cobus kob*, *Scott Elliot*, P. Z. S. 1895, p. 341 (Lake Albert-Edward).

VERNACULAR NAME :—*Nsunnu* or *Nsunu* of the Waganda (*Speke*, *Lugard*, &c.).

Size about as in *C. leucotis*, but form thicker and heavier (height at withers of an adult male $35\frac{1}{2}$ inches). General colour rich fulvous. Area round eyes and another round bases of ears whitish; back of ears fulvous, with an indistinct tipping of black; hairs of inner surface of ears white. Muzzle, lips, chin, chest, belly, and inner sides of forearms and thighs white. Front of fore legs from middle of forearms downwards with a strongly defined black line, which broadens at the knees and pasterns; hind legs with a similar black mark, but only reaching up from the hoofs halfway towards the hocks. Remainder of limbs fulvous, an indistinct whitish ring just above the hoof; back of pasterns thickly hairy.

Horns thick and strongly curved, attaining a length of about 17 or 18 inches.

Female similar, but without horns.

Skull measurements (♂):—Basal length 10·4 inches, greatest breadth 4·6, orbit to muzzle 6·3.

Hab. Kavirondo and Uganda.

Thomas's Kob, as it has been lately proposed to call the representative of this group of Antelopes in Kavirondo, Uganda, and the adjoining districts of Africa, after one of the authors of the present work, has been known for many years; but it has been unfortunately confounded with *Cobus leucotis*, *C. vardoni*, and *C. kob*, and has only been recently recognized as a distinct species. Although not unlike the White-eared Antelope, it is really much more nearly allied to the Kob of West Africa, of which it is in fact a larger form. From the Poku (*Cobus vardoni*) it is at once distinguishable by its black legs.

The first specimens of Thomas's Kob that reached England were two heads brought home by Speke on his return from his celebrated East-African expedition in 1863. These were examined by Sclater, and in his report on the Mammals of the expedition (P. Z. S. 1864, p. 103) were erroneously referred to *C. leucotis*. But a re-examination of one of the specimens, which is now in the British Museum, has convinced us that it is undoubtedly referable to the present species. Speke remarks that this Antelope, of which the native name is "Nsunnu," is "found in Uganda, Unyoro, and Madi, but never south of those countries. They roam about in large herds in the thick bush and grassy plains, but never go far from water."

So far as we know, the next example that reached Europe of the present species was that of an adult male received by the British Museum from Mr. F. J. Jackson in 1891, from which our figure (Plate XXXIX.) has been taken. This specimen was mounted and placed in the Mammal gallery, and named at first *C. vardoni*, and afterwards *C. kob*. Other examples of the same Antelope were subsequently received at South Kensington from Mr. Gedge, Capt. Lugard, and Mr. Scott Elliot, and referred to the Kob. Mr. Gedge's specimens were obtained in Uganda, Capt. Lugard's on the south-west coast of the Albert Nyanza, and Mr. Scott Elliot's near the Albert-Edward Lake.

In the autumn of 1895, Herr Oscar Neumann, the distinguished German traveller and naturalist, came to the British Museum for the purpose of examining the Mammals in the collection, and of comparing them with the specimens he had himself obtained during his journeys through German and

British East Africa in 1892-5. Herr Neumann, who visited the Musée d'Histoire Naturelle at Paris for the same purpose, found during his researches at these places that the so-called "Kob" of East Africa was essentially different from the true Kob of Western Africa. Thomas in this country, and M. Poussarges in France, had also come to the same conclusion: Thomas from an examination of specimens of the true *Cobus kob* recently obtained by Capt. Lugard on the Niger, and M. Poussarges from a comparison of a specimen of the present Antelope procured by M. Declé in Uganda with the original types of Buffon's "Kob." Herr Neumann therefore proposed to call the new Eastern species after Mr. Thomas, and designated as its type Mr. Scott Elliot's specimen from Uganda, to which he affixed the specific name *thomasi* in MS. But the preparation of Herr Neumann's description was unfortunately delayed, and was not transmitted to the Zoological Society of London for publication until January 1896. In the meanwhile, Sclater, supposing from the delay that the description in question might have been sent to some periodical in Germany, had exhibited a mounted head of the same Antelope (obtained by Mr. E. Gedge on the eastern shores of Lake Victoria, as hereafter mentioned) and had given its name as "*Cobus thomasi*, Neumann, MS." This, therefore, was actually the first publication of the species under its present name, and it may possibly be a moot point for experts in questions of priority whether Mr. Gedge's specimen ought not really to be considered the "type." It is satisfactory, however, that both the possible "types" are in the British Museum, so that no international complications can arise from such a controversy.

The "Kob" of Uganda, as Mr. F. J. Jackson in his excellent chapter on Antelopes in "Big Game Shooting" calls this species, following the then prevalent opinion as to its identity, "is first met with in British East Africa near Mumia's, in Upper Kavirondo. Here I saw a small herd on three consecutive days on the banks of the Nzoia, quite near to the same place. As I was after Hippo.s at the time, and never got near the Antelopes, I mistook them for Impalas, and paid no further attention to them, until one day Mr. Gedge brought in the head of one he had shot, and I at once recognized my mistake. On going out specially to get one or two I found them plentiful. This beast is rarely seen more than 300 or 400 yards from water. It is very shy, and unless found in long grass (about the only covert there is, excepting ant-heaps, in the places it haunts) is very difficult to

stalk. It is extraordinarily tough, and requires a great deal of killing. When wounded it takes to the reeds along the river-banks and in the swampy hollows, but when only alarmed prefers to keep to the open for safety. This Antelope is evidently plentiful near the shores of Victoria Nyanza, as nearly all the Waganda canoes are ornamented on their high projecting prow with its frontlet and its horns. These beasts are usually found in small herds, consisting of a buck and three or four does. I have also seen one herd of some twenty-five, consisting entirely of bucks."

Mr. Ernest Gedge has kindly favoured us with the following notes on this Antelope:—"My experience of these animals has been but small, owing to their extremely local distribution. I first encountered them in Upper Kavirondo, to the west of Mumia's, in the vicinity of the Nzoia River, in the month of November. On another occasion I saw them near the Nile, when on an elephant-hunting expedition in Uganda, and again in the province of Buddu to the N.W. of the Victoria Nyanza.

"As far as my experience goes it would seem that these are water-loving animals, and not to be found except in the vicinity of swamps and rivers.

"The times at which specimens may best be secured are the early morning and towards sundown, when the animals leave the shelter of the high reeds and thickets (in which they appear to lie up during the heat of the day) and come to their feeding-grounds. Four or five is the greatest number I have ever seen at one time, more generally they are met with singly or in pairs.

"They are not very difficult to stalk, as they are generally near covert, or on broken ground of some kind, favourable to the hunter, and, moreover, they have not the shy, suspicious nature of the Hartebeest, unless some of the latter happen to be in their vicinity, in which case they become more difficult to approach.

"Their tenacity of life is very great, and unless disabled at once the chances are against the hunter, the impenetrable nature of the swamps and jungles to which they fly when wounded precluding all hope of pursuit.

"Their colour is a rich rufous, turning to white on the belly and inside the thighs, the females being somewhat lighter in colour than the males. Their whole appearance is handsome and well proportioned, whilst the head makes an exceptionally graceful trophy. I would mention that the last specimen I procured was a single buck, which I shot in the vicinity of

Berkeley Bay on my return from Uganda in 1893. It was lying at the edge of a papyrus-swamp, and as it sprang off at my approach a lucky snap-shot secured for me the finest head I possess of this Antelope."

Fig. 34.



Head of *Cobus thomasi*, ♂.
(P. Z. S. 1895, p. 869.)

This specimen, of which, by the kindness of the Zoological Society, we are enabled to reproduce the original figure from the 'Proceedings,' has recently been presented by Mr. Gedge to the British Museum.

Herr Neumann gives the localities of this Antelope as "Kavirondo, Ussoga, Uganda, Unyoro, Albert Lake, and, finally, Simiu River, at the south-east corner of Lake Victoria," where it was obtained by Herr Langheld.

December, 1896.



W. F. Seale. Smut lith.

Buffon's Kob.
COBUS KOB.

Harris sculp.

Published by R. H. Porter.

66. BUFFON'S KOB.

COBUS KOB (ERXL.).

[PLATE XL.]

- Le Kob*, Buff. Hist. Nat. xii. pp. 210 & 267, pl. xxxii. fig. 1 (1764) (Senegal); Ogilby, P. Z. S. 1836, p. 102.
- Antilope kob*, Erxl. Syst. R. A. p. 293 (1777); Zimm. Geogr. Gesch. ii. p. 124 (1780); Gatt. Brev. Zool. i. p. 84 (1780); G. Cuv. Dict. Sci. Nat. ii. p. 234 (1804); Desm. N. Dict. d'H. N. (2) ii. p. 187 (1816); Goldf. Schr. Säug. v. p. 1240 (1818); Desm. Mamm. ii. p. 457 (1822); Less. Man. Mamm. p. 375 (1827); J. B. Fisch. Syn. Mamm. p. 463 (1829); Laurill. Dict. Univ. d'H. N. i. p. 617 (1839); Wagn. Schr. Säug. Suppl. iv. p. 435 (1844), v. p. 432 (1855); Fraser, Zool. Typ. pl. xx. (1849); Temm. Esq. Zool. Guin. pp. 190 & 199 (1853).
- Cerophorus (Gazella) kob*, Blainv. Bull. Soc. Philom. 1816, p. 75.
- Adenota kob*, Gray, Knowsl. Men. p. 14, pls. xiv. & xv. (1850); id. P. Z. S. 1850, p. 129; id. Ann. & Mag. N. H. (2) viii. p. 211 (1851); id. Cat. Ung. B. M. p. 96 (1852); Gerrard, Cat. Bones Mamm. B. M. p. 238 (1862); Fitz. SB. Ak. Wien, lix. 1, p. 174 (1869); Gray, Cat. Rum. B. M. p. 17 (1872); id. Hand-l. Rum. B. M. p. 87 (1873); Jent. Cat. Ost. Leyd. Mus. (Mus. Pays-Bas, ix.) p. 130 (1887); id. Cat. Mamm. Leyd. Mus. (op. cit. xi.) p. 159 (1892); Matschie, MT. deutsch. Schutz-geb. vi. p. 17 (1893) (Togoland).
- Cobus kob*, Lyd. Field, lxxvii. p. 980 (1891); id. Horns and Hoofs, p. 224 (1893); Sci. P. Z. S. 1895, p. 688; Ward, Horn Meas. (2) p. 127 (1896).
- Antilope forfex*, H. Sm. Griff. An. K. iv. p. 221, v. p. 334 (1827) (from Pennant's "Gambian Antelope"); Less. Compl. Buff. x. p. 289 (1836); Reichenb. Säug. iii. p. 110 (1845).
- Antilope adenota*, H. Sm. Griff. An. K. iv. p. 223, v. p. 335 (1827); A. Sm. S. Afr. Quart. J. ii. p. 209 (1834); Reichenb. Säug. iii. p. 110 (1845).
- Kobus adansonii*, A. Sm. Ill. Zool. S. Afr. text to pl. xxix. (1840).

Antilope annulipes, Gray, Ann. & Mag. N. H. x. p. 267 (1842).

Adenota buffoni, Fitz. SB. Ak. Wien, lix. 1, p. 174 (1869) *.

VERNACULAR NAMES:—*Æquitoon* of the Joliffs, and *Kob* of the Mandingos, at the Gambia (*Whitfield*, fide *Gray*).

Similar in general character and markings to *C. thomasi*, but size much smaller, form slenderer, and markings less strongly defined. The black leg-markings are present, though not so deeply black as in the last species, and are succeeded below by a white ring round the pasterns, separating them from the hoofs. Back of pasterns hairy.

Horns much smaller than in any of the allied forms, only attaining a length of about 14-15 inches.

Female. Similar, but without horns.

Skull measurements (♂):—Basal length 9·5 inches, greatest breadth 4·45, orbit to muzzle 5·9.

Hab. W. Africa, from the Gambia to the Niger.

In the twelfth volume of his celebrated 'Histoire Naturelle,' the great French naturalist Buffon distinguished two Antelopes from Senegal as the "Koba" and the "Kob." Of the difficulties experienced by subsequent authors in deciding what Buffon's "Koba" really was, we have already spoken in our article on *Damaliscus korrigum* (Vol. I. p. 60). But as regards the "Kob" there can, we think, be no question that Buffon's "*Kob, ou petit vache brune de Sénégale*" is clearly the same as that which we now call *Cobus kob*, and propose to designate in English "Buffon's Kob," to distinguish it from its fellows of the same group.

Erxleben, in 1777, seems to have been the first writer to Latinize Buffon's vernacular name as "*Antilope kob*." In this he was followed by most of the early systematists, who, however, added nothing to our knowledge of the animal. Little more, in fact, was known of this Antelope until about 1827, when a fresh description of it was published by Hamilton Smith in Griffith's edition of Cuvier's 'Animal Kingdom,' taken from a pair of animals then

* The *Antilope lervia* of Pallas (Spic. Zool. xii. p. 12) has been referred to this species by some authors; but that name is clearly based on Shaw's *Lerwea* ('Travels in Barbary,' p. 243), which, as Gray has rightly pointed out, is referable to the Barbary Sheep (*Ovis tragelaphus*).

living in the Menagerie at Exeter Change. Colonel Hamilton Smith, being uncertain whether this was the true "Kob" of Buffon, gave it a new name, *adenota*, derived from the small gland situated on its back (*ἀδὴν*, *glandula*, and *ρῶτρος*, *dorsum*). There can be no doubt, however, that Hamilton Smith's description of his *Antilope adenota*, which is accompanied by a very fair figure of the male, refers to Buffon's Kob. Another name bestowed upon this Antelope by Hamilton Smith, in the same work, was *Antilope forfex*, based on Pennant's "Gambian Antelope."

The first specimen of the Kob Antelope that reached Europe alive, so far as we know, was that presented to the Zoological Society of London by Mr. John Foster in 1836, which was subsequently figured in Fraser's 'Zoologia Typica' (plate xx.). Fraser tells us that it lived about three years in the Society's Gardens. This is no doubt the specimen that is referred to by Ogilby as the "Kob of Buffon" in his remarks printed in the 'Proceedings of the Zoological Society' for 1836 (page 102). Although Ogilby's references to it are not very comprehensible, this fact is clearly established by what Fraser says in his 'Zoologia Typica.'

Shortly after this period living specimens of this Antelope were obtained at the Gambia and brought home for the Knowsley Menagerie by Whitfield, Lord Derby's collector. Upon these animals Gray established his *Antilope annulipes* in 1842, but in the letterpress to the 'Gleanings' Gray admitted that they were really referable to the present species. Gray states that a fine pair "had been at Knowsley for some years," and adds that they are called on the Gambia "Æquitoon" by the Joliffs and "Kob" by the Mandingos. On plates xiv. and xv. of the 'Gleanings' good coloured figures of the male, female, and young of this species will be found, taken from drawings made from life by Waterhouse Hawkins. From this it would appear that the Kob, like many other Antelopes, bred in those days at Knowsley.

We cannot ascertain that any living examples of the Kob have been received by the Zoological Society subsequently to that obtained in 1836 as already mentioned; but a female, which was formerly living in the Zoological Garden of Amsterdam, is now in the gallery of the Leyden Museum, and in August 1895 Sclater saw a fine male of this species in the Jardin des Plantes at Paris (see P. Z. S. 1895, p. 688) and another male in the private collection

of the late Mr. Sharland at Tours. These two animals, we have been informed, were imported together from West Africa.

From Senegal and the Gambia the Kob extends through the interior of West Africa to Togoland, where it has been obtained by the German collectors inland from Bismarckburg and far into the Niger territory. As regards the latter locality, Sclater has examined a pair of horns of the Kob obtained by Capt. A. F. Mockler-Ferryman at Ibi, on the Benué, in the autumn of 1889, when he was travelling with Major Claude Macdonald's expedition up that river; and Capt. Mockler-Ferryman has kindly supplied us with the following note on them:—"The Antelopes, from a male of which this pair of horns were taken, were fairly plentiful everywhere in the open park-like country of the Benué, and, so far as I can remember, were exactly similar in habits to Vardon's Antelope, as described by Selous. These horns measure $17\frac{1}{2}$ inches in length along the curve. The females of this Antelope had no horns."

In 1895 Capt. Lugard during his expedition to Bornu obtained a skin and two skulls of this Antelope at Lukoja on the Niger, and presented them to the British Museum. It was the examination of Capt. Lugard's specimens that first convinced Thomas that the Uganda Kob (subsequently named *Cobus thomasi*) belongs to a different species. The specimens previously in the National Collection (a male and female from the Gambia, collected by Whitfield) were both immature, and consequently of little use for accurate comparison.

Our figure of Buffon's Kob (Plate XL.) was lithographed for Sir Victor Brooke by Smit from a coloured drawing by Wolf, but we have not been able to ascertain from what specimen the drawing was originally taken.

December, 1896.



J. Smith del & lith

The Poku
COBUS VARDONI

Harbutt imp

Published by R.H. Porter .

67. THE POKU.

COBUS VARDONI (LIVINGST.).

[PLATE XLI.]

Antilope vardoni, Livingstone, Miss. Trav. p. 256 (Barotse valley), and pl. p. 71 (1857).

Heleotragus vardonii, Kirk, P. Z. S. 1864, p. 657 (Zambesia).

Cobus vardoni, Selous, P. Z. S. 1881, p. 759, pl. lxx. ; id. Hunter's Wand. pp. 111, 147, 219, pl. v. (1881) (Chobe); Ward, Horn Meas. (1) p. 92 (1892), (2) p. 129 (1896); Sclater, P. Z. S. 1892, p. 98; id. P. Z. S. 1893, p. 728 (Lake Mweru).

Eleotragus vardoni, Huet, Bull. Soc. Acclim. 1887, p. 48; Matschie, SB. Ges. nat. Fr. Berl. 1891, p. 138.

Kobus vardoni, Nicolls & Egl. Sportsm. S. Afr. p. 43, pl. viii. fig. 30 (1892).

Adenota vardoni, Matschie, Säug. Deutsch. Ost-Afr. p. 126 (1895).

VERNACULAR NAMES :— *Pookoo*, *Poku*, or *Puku* throughout its range; *Impookoo* of the Masubias (*Selous*); *Sawwula* of Kinyamwesi (*Böhm*, fide *Matschie*).

Size and general characters almost exactly as in *C. thomasi*, but the legs entirely without any trace of the black markings so conspicuous in *C. kob* and *C. lechee*. Height at withers of an adult male $35\frac{1}{2}$ inches, female the same. Back of ears fulvous, their extreme tips edged with black. Pasterns hairy, scarcely any trace of a white ring above hoofs.

Horns thick and strongly curved, having a length of about 17 or 18 inches.

Female. Similar, but hornless.

Skull measurements (σ):—Basal length 11 inches, greatest breadth 4.47, muzzle to orbit 7.25.

Hab. Valleys of Chobe and Zambesi, and northwards through the Barotse country to Lake Mweru.

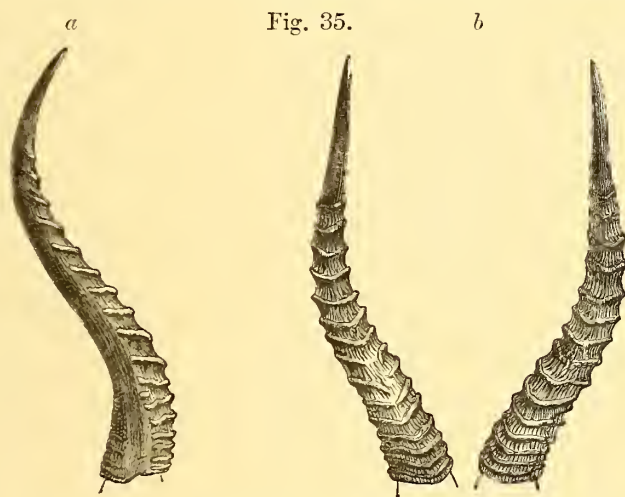
Our first knowledge of this species is due to the great explorer Livingstone. When in the Barotse country beyond Libonta, in November 1853, he found "the wild animals in enormous herds, and fared sumptuously. It was grievous, however," he adds, "to shoot the lovely creatures, they were so tame." While waiting for an answer to a message sent to a native chief he "lay looking at the graceful forms of the beautiful pokus, lechès, and other antelopes." In a footnote to this passage in his 'Missionary Travels' he informs us that the Poku "is a new species which he proposes to name after the African traveller Major Vardon." We do not believe that Livingstone ever published a description of his species, but in the same work (p. 71) will be found a full-page plate, from the inimitable pencil of Joseph Wolf, illustrating the "New African Antelopes (Poku and Lechè) discovered by Oswell, Murray, and Livingstone."

In 1864 we have a further contribution to our knowledge of this animal from the pen of Sir John Kirk. In his article on the Mammals of Zambesia read before the Zoological Society of London on December 13th of that year, he tells us that the Poku "is one of the three water-antelopes common to the marshes of the Chobi and Zambesi. With the Lechè it often mixes, the habits of the two being very similar, the Poku being less aquatic and being found more often on dry ground. It is known by its smaller size, its more erect carriage, and its plumper neck. The horns are less turned backwards, and partake more of the aspect of the Reit-bock."

Mr. Selous's excellent field-notes on the Poku, contained in the 'Proceedings' of the same Society for 1881, and subsequently reprinted in his 'Hunter's Wanderings,' deserve to be quoted at full length:—

"The only place where I ever met with this species was in a small tract of country extending along the southern bank of the Chobe for about seventy miles westward from its junction with the Zambesi. They are never found at more than 200 or 300 yards from the river, and are usually to be seen cropping the short grass along the water's edge, or lying in the shade of the trees and bushes scattered over the alluvial flats which have been formed here and there by the shifting of the river's bed. That they exist, however, eastwards along the southern bank of the Zambesi as far as the Victoria Falls (about sixty miles from the mouth of the Chobe) I think probable, as I saw one shot on the very brink; but though I followed the river's bank all the way, I never met with another till I reached the Chobe.

The natives report them common on the eastern bank of the Zambesi, north of Lesheke. From a plate in Dr. Livingstone's first book I always imagined that the Pookoo was found at the Lake Ngami; but, as he makes no mention of it in the letterpress before reaching the Zambesi, and as neither Andersson nor Baldwin, who both visited the lake, seem to have known of its existence at all, this is perhaps erroneous. In size they stand about the same height at the shoulder as the Impala, but, being much thicker-set and stouter built, must weigh considerably more. The colour is a uniform foxy red, the hair along the back about the loins being often long and curly; the tips of the ears are black. The males alone bear horns, which are ringed to within three



Horns of *Cobus vardonii*.—*a*. Side view; *b*. Front view.
(P. Z. S. 1881, p. 760.)

inches of the point, and curve forwards like those of the Lechwe, to which animal they are very closely allied. The longest pair I have in my possession measures sixteen inches, which is about the extreme length they ever attain. These Antelopes are usually met with in herds of from three or four to a dozen in number; but on one of the alluvial flats to which I have before referred I have seen as many as fifty in one herd. Sometimes ten or a dozen rams may be seen together, or a solitary old fellow quite alone. I have often seen these Antelopes feeding in company with a herd of Impalas, and then their heavy thick-set forms contrasted strongly with the slim and graceful proportions of the latter animals. The meat of the Waterbuck is usually considered to be more unpalatable than that of any

other South-African Antelope; but, if it will give anyone satisfaction to know it, I can conscientiously say that that of the Pookoo is several shades worse. In conclusion, I have found that they and their congener the Lechwe are wonderfully tenacious of life, and will run long distances after receiving wounds that one would think ought to be immediately fatal."

Mr. Selous's field-notes on this Antelope are accompanied by an excellent coloured figure of the whole animal, and by some drawings of the horns, which, by the kind permission of the Zoological Society, we are enabled to reproduce here (see fig. 35, p. 143).

It was until recently supposed that the Poku did not extend its range far north of the Zambesi; but in 1890 Mr. Alfred Sharpe met with it on the Luapula north of Lake Mweru, and says (Pr. R. G. S. n. s. xiv. p. 39) that it is common there, although unknown in the countries bordering on Lake Nyasa. Mr. Sharpe sent home three flat skins and several pairs of horns of this species, which were examined by Selater (P. Z. S. 1892, p. 98; 1893, p. 728), and says, in his accompanying notes, "I doubt if game can be anywhere more plentiful in Central Africa than in the Mweru and Luapula countries. *Cobus vardoni* and *C. lechee* run in enormous herds. These two Antelopes are frequently found together, are much alike in appearance, and are both known by the natives as 'Nswala.' (The Impala is also called 'Nswala' by them.) The horns of the Letchwé have a much larger spread than those of Vardon's Antelope, but at a distance it is difficult to distinguish between the two. The Letchwé has a little black stripe on the fore legs which is not found in Vardon's Antelope. A noticeable feature about the male Letchwé is that when he runs he puts his head down, laying back the horns. Vardon's Antelope does not do this." Mr. Sharpe also met with *C. vardoni* occasionally near the south end of Lake Tanganyika. In the narrative of his second journey to Lake Mweru in 1892 (Geogr. Journ. i. p. 526) Mr. Sharpe has again noticed the abundance of the Poku in the Mweru swamp along with the Lechee.

Our figures of *Cobus vardoni* (Plate XLI.) were drawn by Mr. Smit from the mounted specimens of both sexes in the British Museum procured by Mr. F. C. Selous at Umbarira, on the River Chobe, in 1881. There are skins and skulls in the same collection obtained by Mr. Sharpe and Mr. Crawshay in the district of Lake Mweru.

December, 1896.

68. THE SENGA KOB.

COBUS SENGANUS, SP. N.

Similar to *C. vardoni* in most respects, but very much smaller (height at withers in a female, measured in the flesh, $30\frac{1}{2}$ inches). General colour rather darker than in *C. vardoni*, especially on the head. Ears black, tipped behind for fully one-third of the length, instead of merely at their extreme tip. No white ring above the hoofs.

Horns unknown.

Skull measurements of the type (♀), not fully adult, although encephalic when killed:—Basal length 8·9 inches, greatest breadth 3·75, orbit to muzzle 5·85.

Hab. Senga, Upper Loangwa River, W. of the N. end of Lake Nyasa: altitude 2500 feet.

This Antelope, the second member of the genus lately discovered and recognized by Mr. Richard Crawshay, seems to be a small highland form of the Poku, and it is possible that intermediate specimens between the two may be hereafter found. In this case *C. senganus* will have to be reduced to a subspecies of *C. vardoni*. But until such intermediate forms are obtained we do not feel justified in presuming their existence, and therefore class *C. senganus* as a different species.

The only specimen of *C. senganus* as yet procured is unfortunately a female, young enough still to retain its milk-dentition. The general development of the skull, however, and the fact that, as we are informed by Mr. Crawshay, there was a nearly mature foetus within the womb, show that the animal had practically attained its full growth, and therefore that its small size may be justifiably used as a distinguishing character.

We subjoin the notes with which Mr. Crawshay has favoured us on this species:—

“The form of *Cobus* represented by the present specimen from Senga, to the west of Lake Nyasa, is only met with, I believe, in the neighbourhood of the Upper Zambesi River, in the water-basins of Lakes Mweru and Tanganyika, and perhaps also in those of one or two more of the Central African lakes. It does not occur in the water-basin of Lake Nyasa itself, where only the large grey *C. ellipsiprymnus* is found; nor until now has it ever been recorded nearer Lake Nyasa than the valley of the Sayisi River, 30 miles or so east of the southern end of Lake Tanganyika, where *C. vardoni* is met with. It remains to be seen what naturalists make of it: whether it is to be regarded as only a diminutive race of *C. vardoni* or as a new species altogether.

“In general shape and colouring, seen by itself, it appears to be *C. vardoni*; in size, however, it is considerably smaller; and when specimens of the two come to be laid side by side there may be other points of difference. But I wish to lay stress on the fact that, apart from the *distance* separating the districts where the two are found, the *physical aspects* of their several haunts differ very materially.

“*Cobus vardoni* is always found in or on the outskirts of swamps, usually on open, marshy plains, where the grass is rich and green; moreover, as a rule, it is met with in large scattered herds, feeding in the open all over the place—such at any rate has been my experience in the countries bordering on Lakes Tanganyika and Mweru. On the other hand, *C. senganus* is a native of dry, hilly country, often rough and stony, and far from any swampy land, though near a river. Again, it is not at all plentiful in Senga; I saw only two during my travels in the neighbourhood, both females, of which the present specimen is one.

“Regarding the habits of this animal I know very little—no more, in fact, than when, where, and how I became possessed of the specimen, which was as follows:—

“During the latter part of the dry season of 1895 I had occasion to undertake a journey from Deep Bay on Lake Nyasa into the Senga country, which is in the valley of the Loangwa River—a very considerable stream even at this point. The Loangwa drains a large area of country between Lakes Nyasa and Bangweolo, and after a course of some 400 miles or more,

about south by west, joins the Zambesi as one of its chief tributaries. From Konde to where I struck the Loangwa—which flows through Senga—is a tortuous journey of about 8 days for loaded porters ; much of the intervening country is hilly and broken ; during part of the distance water is a difficulty in the dry season.

“Senga is intensely African: in point of interest for the traveller and sportsman naturalist it impressed me more than any other part of Africa I have seen. It is of vast extent, yet thinly populated ; it is hilly and rugged and cut up with innumerable perpendicular ravines. Its soil, except in the neighbourhood of the river, is mostly hard, yellowish-white sand ; it is intensely hot, and but for the Loangwa River would be a desert for want of water ; the whole country, then, is buried in never-ending forest or scrubby bush—hence its local name ‘Masenga.’

“It was on September 12th, in about latitude $10^{\circ} 15'$ south, that I secured the *Cobus* ; the altitude of the Loangwa River at this point is 2410 feet, according to my aneroid. I was on the march between Kampumbu’s town and another town, Myereka’s, about 18 miles higher up the Loangwa : my caravan had preceded me by an hour or two ; I had remained behind with a couple of gun-bearers and three Wasenga guides, and was making a detour in search of game.

“The day previous I had shot a Roan Antelope, but on this particular day I had not shot anything, and indeed had only seen a few Impala, which did not give one a chance.

“It was a terrifically hot day ; the Loangwa valley is like a furnace at this time of year, just before the rains. Every bit of cover had been burned off and there was not a leaf or a blade of grass anywhere. The ground was baked as hard as a brick and had cracked into deep fissures ; the heat and glare almost sickened me, old traveller as I am and inured to heat. Nevertheless, in spite of all this, we came upon the two Antelopes of the genus *Cobus* standing in the open, close to the foot of a very rough conical hill, about 1 o’clock in the afternoon. I shot one without remarking anything unusual about them, viewed at about 120 yards ; had I wished it, I could have shot the other, but I refrained as both were females. The Wasenga who were with me could not at once identify the animal ; an hour or two later, however, the older men of Myereka’s town pronounced it to be ‘Sewula’ and ‘Seyula.’

“The latter name is that by which the Wawemba call *C. vardoni*—not ‘Inswala’ as Mr. Sharpe has stated in the account he wrote of his journey to Mweru; he was no doubt misled by his Watonga porters from Lake Nyasa, who gave him what is the Manganga name for the ‘Impala,’ which they confused with *C. vardoni*, never having seen that animal before.

“It is curious how very accurate Livingstone’s information proves to be, even on such small points as these; he, though not a sportsman or one who cared much for natural history, records in his last journals the Wawemba name for *C. vardoni* as ‘Sebula’—which of course might be a mistake in the printing for ‘Seyula,’ the name by which the Wawemba call this animal to the present day.

“It will bear me out in my statement that this *Cobus* is considerably smaller than *C. vardoni*, when I say that two of the Wasenga carried the animal, turn and turn about, for some three miles, when they were relieved by other men sent out from camp.

“I should estimate its weight at, roughly, 90 lbs., possibly more. It is an adult specimen; for we found in her a foetus (σ), to which she would have given birth in another week or 10 days.

“Her height at the withers, as she lay dead, measured $30\frac{1}{2}$ inches.”

Mr. Crawshay’s typical specimen (now by his kindness deposited in the British Museum) being the only example yet obtained of this species, we have nothing more to say about it, except to express our regret that it arrived too late to be figured, or to be included in the synopsis of the species of *Cobus* given above (p. 95).

December, 1896.



Woit del. - Smit lith.

The Lechee.
COBUS LECHEE .

Hanhart imp.

Published by R.H. Porter .

69. THE LECHEE.

COBUS LECHEE (GRAY).

[PLATE XLII.]

Leechee, Oswell, J. R. G. S. xx. p. 150 (1851); Livingstone, J. R. G. S. xxi. p. 23 (1851); id. Miss. Trav. p. 71 & plate (1857); Andersson, Lake Ngami, p. 448, pl. xiii. (1856).

Kobus leché, Gray, Knowsl. Men. p. 23 (1850); Turner, P. Z. S. 1850, p. 174.

Adenota leché, Gray, P. Z. S. 1850, p. 130, Mamm. pl. xx.; id. Ann. Mag. N. H. (2) viii. p. 212 (1851); Huet, Bull. Soc. Acclim. 1887, p. 77.

Adenota lechee, Gray, Cat. Ung. B. M. p. 97 (1852); Gerrard, Cat. Bones B. M. p. 239 (1862).

Heleotragus leché, Kirk, P. Z. S. 1864, p. 658 (Upper Zambesi).

Onotragus lechee, Gray, Cat. Rum. B. M. p. 17 (1872); id. Hand-l. Rum. B. M. p. 88 (1873).

Cobus leechi, Buckley, P. Z. S. 1876, p. 291.

Cobus lechee, Selous, P. Z. S. 1881, p. 760; id. Hunter's Wand. S. Afr. p. 220 (1881); Ward, Horn Meas. (1) p. 90 (1892), (2) p. 125 (1896); Sclater, P. Z. S. 1893, p. 728 (L. Mweru, Sharpe).

Kobus lechee, Nicolls et Egl. Sportsm. in S. Afr. p. 42, pl. vii. fig. 22 (1892).

VERNACULAR NAMES:—*Leche* or *Leegwee* of the Makalolos. *Inya* of the Masubias; *Oonya* of the Makubias (*Selous*).

Size nearly equal to that of the large Water-bucks of the first section of the genus (height at withers 40–41 inches), although the general form is more graceful. Colour fulvous, slightly paler than in *C. thomasi*, which this species resembles in having well-defined black markings running down the legs, but which are succeeded below by white rings above the hoofs. Backs of both fore and hind pasterns quite naked, a character which distinguishes

this species from all its allies. Pale areas round eyes and ears not sharply defined; back of ears not black-tipped. Muzzle, lips, chin, and belly white as usual. Tail slender, with a black tuft, just reaching to the level of the hocks.

Horns long, slender, and gracefully curved, attaining a length of 26 or 27 inches.

Female similar to the male, but without horns.

Hab. Zambesia, extending northwards to Lake Mweru, and south-westwards to Lake Ngami.

Like the Poku the Lechee was first discovered by Livingstone and his companions Oswell and Murray, who travelled with him in 1849 on his first journey to Lake Ngami. After leaving the lake, on descending the valley of the River Zouga, he tells us ('Missionary Travels,' p. 71):—"We discovered an entirely new species of Antelope, called 'lechè' or 'lechwi.' It is a beautiful water-antelope of a light brownish-yellow colour. Its horns—exactly like those of the *Aigoceros ellipsiprymnus*, the water-buck, or 'tumōga' of the Bechuanas—rise from the head with a slight bend backwards, then curve forwards at the points. The chest, belly, and orbits are nearly white, the front of the legs and ankles deep brown. From the horns, along the nape to the withers, the male has a small mane of the same yellowish colour with the rest of the skin, and the tail has a tuft of black hair. It is never found a mile from water; islets in marshes and rivers are its favourite haunts, and it is quite unknown except in the central humid basin of Africa. Having a good deal of curiosity, it presents a noble appearance as it stands gazing with head erect at the approaching stranger. When it resolves to decamp, it lowers its head, and lays its horns down to the level with the withers; it then begins with a waddling trot, which ends in its galloping and springing over bushes like the pallahs. It invariably runs to the water and crosses it by a succession of bounds, each of which appears to be from the bottom. We thought the flesh good at first, but soon got tired of it."

To accompany this description a steel plate, drawn by Wolf and engraved by Whympers (already alluded to in our account of the Poku), was given at the same page of the work. It represents a scene on the Zouga with males of the Lechee and Poku occupying a conspicuous position in the foreground,

and a mixed herd of these two Antelopes, which are said to be frequently found together, on the reedy banks.

Oswell sent home to his friend Capt. Vardon a specimen of the new-found Antelope, and Capt. Vardon, as we find on reference to the minute-books of the meetings of the Zoological Society of London, exhibited it at the scientific meeting of that Society on June 11th, 1850. The species thus

Fig. 36.



Head of *Cobus lechee*.

(From Mr. Selous's mounted specimen in Brit. Mus.)

became included in Gray's "Synopsis of Antelopes and Strepsiceres," which was read on the same evening. A coloured plate by Joseph Wolf, attached to the Synopsis, was taken from Capt. Vardon's specimen, which was subsequently presented to the British Museum.

The Lechee is also well figured by Wolf in a plate in Andersson's 'Lake Ngami,' which contains an account of that traveller's expedition to the Lake from the west coast in 1854. After a description of the animal Andersson says:—"The Leché is a Waterbuck, for though not actually living in the water, it is never found any distance from it. Great numbers are annually destroyed by the Bayeye, who convert their hides into a kind of rug for sleeping on, carosses, and other wearing apparel."

The National Collection likewise contains a good mounted specimen of the male of this Antelope obtained by Mr. F. C. Selous at Umparira, on the Chobe, in 1881. In his paper on the Antelopes of Central South Africa, published in the Zoological Society's 'Proceedings' for 1881, Mr. Selous gives us the following account of his experiences with the Lechee:—"This Antelope is first met with in the marshes of the Botletlie River, and is very numerous in the open grassy plains which are always more or less inundated by the Tamalakan, Mababe, Machabe, Sunta, and Chobe rivers. It is also common along the Upper Zambesi. In the swamps of the Lukanga River, about 150 miles to the south-west of Lake Bengweolo, which I visited in 1878, I found the Leegwee Antelope in large herds.

"After Speke's Antelope, the Lechee is the most water-loving Antelope with which I am acquainted, and is usually to be seen standing knee-deep, or even up to its belly, in water, cropping the tops of the grass that appear above the surface, or else lying just at the water's edge. As is the case with *Tragelaphus spekii*, the backs of the feet are devoid of hair between the hoof and the dew-claws, whilst in the Pookoo, as with all other Antelopes, this part is covered with hair. In some parts of the country Leegwee Antelopes are very tame; in others, where they are much persecuted by the natives, excessively wild. When they first make up their minds to run they stretch out their noses, the males laying their horns flat along their sides, and trot; but on being pressed they break into a springing gallop, now and then bounding high into the air. Even when in water up to their necks, they do not swim, but get along by a succession of bounds, making a tremendous splashing. Of course, when the water becomes too deep for them to bottom, they are forced to swim, which they do well and strongly, though not as fast as the natives can paddle; and when the country is flooded, great numbers are driven into deep water and speared. In the adult Leegwee the ears are of a uniform fawn-colour; but in the young

animal they are tipped with black as in the adult Pookoo. In the flooded grassy plains in the neighbourhood of Linyanti on the Chobe, this beautiful Antelope may be seen in almost countless numbers, and I have counted as many as fifty-two rams consorting together. Some of these were quite young, with horns only a few inches in length; but there was not a single ewe amongst them. The longest pair of Leegwee horns that I have ever seen measured 2 feet 3 inches in length; but it is rare to get them over 2 feet long measured along the curve. In common with the Pookoo, they appear to me to be more tenacious of life than other Antelopes."

As will be observed by what is said above, Mr. Selous has traced the Lechee beyond the Zambesi nearly as far north as Lake Bangweolo. Hence it extends into the basin of Lake Mweru, where Consul Sharpe met with it in "enormous herds" in company with *Cobus vardoni*. Specimens obtained by Mr. Sharpe in this district were forwarded by Sir Harry Johnston to Sclater, and are now in the British Museum.

We have, however, no evidence at present of the occurrence of the Lechee anywhere further north than the Mweru district. The specimens obtained by Petherick on the White Nile and assigned to *Cobus lechee* by Gray are, as already mentioned, properly referable to *C. leucotis*.

Our figure of this Antelope has been drawn by Smit from a sketch made by Wolf, and taken, we believe, from the original typical specimen now in the British Museum.

December, 1896.

Genus II. CERVICAPRA.

(See page 93.)

	Type.
<i>Cervicapra</i> , Blainv. Bull. Soc. Philom. 1816, p. 75	C. REDUNCA.
<i>Redunca</i> , H. Sm. in Griff. An. K. v. p. 337 (1827)	C. REDUNCA.
<i>Nagor</i> , Laurill. Dict. Univ. d'H. N. i. p. 621 (1839)	C. REDUNCA.
<i>Eleotragus</i> , Gray, List Mamm. B. M. p. 165 (1843)	C. ARUNDINUM.

Similar in essential characters to *Cobus*, but size smaller, build lighter, tail more bushy, and a glandular spot, naked or short-haired, present on the side of the head beneath the ears. Skull light, with large anteorbital vacuities; no anteorbital fossæ; premaxillæ not reaching the nasals. Horns of median length, evenly curved upwards and, in some species, forwards; not present in the females.

Distribution. Africa, south of the Sahara (not found in the forest-districts of Western Africa).

The species of *Cervicapra* are remarkably closely allied, and differ in fact by scarcely any striking characters but size. The strong curvature of the horns in some of the species would seem to be an important character, were it not that in *C. bohor* there is much variation, even in specimens from the same locality. Darker markings on the face and crown seem also to be too variable to afford good distinctive features. We are therefore reduced to dividing the species mainly according to size, as follows:—

A. Height about 36 inches. Basal length of skull about 10 inches.

70. *C. arundinum*.

B. Height about 31 inches. Basal length of skull about 9 inches.

71. *C. bohor*.

- C. Height about 28 inches. Basal length of skull about 8 inches.
- a.* Horns strongly hooked at the tips 72. *C. redunca.*
 - b.* Horns not hooked terminally.
 - a'.* S. Africa 73. *C. fulvorufula.*
 - b'.* E. Africa 74. *C. chanleri.*



Wolf del., J. Smit lith.

The Reed Buck .
CERVICAPRA ARUNDINUM .

Published by R.H. Portr.

Hanhart imp.

70. THE REEDBUCK.

CERVICAPRA ARUNDINUM (Bodd.).

[PLATE XLIII.]

- Ritbok*, Allamand, in Buff. Suppl. vi. p. 187, pls. xxiii. & xxiv. (1782).
Antilope arundinum, Bodd. Elench. Anim. p. 141 (1785).
Cervicapra arundinum, Flow. & Lyd. Mamm. p. 340 (1891); Ward, Horn Meas. (1) p. 93 (1892), (2) p. 134 (1896); Nicolls & Egl. Sportsm. S. Afr. p. 36, pl. vii. fig. 23 (1892); Lyd. Horns & Hoofs, p. 227 (1893); Lugard, E. Afr. i. p. 538 (1893) (in part.) (Nyasa); Selater, P. Z. S. 1893, p. 278 (L. Mweru); Thos. P. Z. S. 1894, p. 146 (Nyasa); Rendall, P. Z. S. 1895, p. 358 (Transvaal); Matschie, Thierwelt Ost-Afr., Säug. p. 127 (1895).
Antilope eleotragus, Schreb. Säug. pl. cclxvi. (1787); Shaw, Gen. Zool. ii. pt. 2, p. 349 (1801); G. Cuv. Dict. Sci. Nat. ii. p. 244 (1804); Thunb. Mém. Ac. Pétersb. iii. p. 314 (1811); Licht. Mag. nat. Fr. vi. p. 173 (1814); Afz. N. Act. Ups. vii. p. 220 (1815); Desm. N. Dict. d'H. N. (2) ii. p. 190 (1816); Goldf. Schr. Säug. v. p. 1225 (1818); Schinz, Cuv. Thierr. i. p. 395 (1821); Desm. Mamm. ii. p. 459 (1822); Burch. List Quadr. pres. to B. M. p. 6 (1825) (Rietfontein); H. Sm. Griff. An. K. iv. p. 237, v. p. 337 (1827); Less. Man. Mamm. p. 376 (1827); J. B. Fisch. Syn. Mamm. p. 465 (1829); Less. Compl. Buff. x. p. 290 (1836); Oken, Allg. Naturg. vii. p. 1364 (1838); Laurill. Dict. Univ. d'H. N. i. p. 621 (1839); Wagn. Schr. Säug. Suppl. iv. p. 426 (1844), v. p. 431 (1855); Schinz, Syn. Mamm. ii. p. 410 (1845); Gieb. Säug. p. 315 (1853-5).
Cerophorus (Cervicapra) eleotragus, Blainv. Bull. Soc. Philom. 1816, p. 75.
Redunca eleotragus, A. Sm. S. Afr. Quart. Journ. ii. p. 210 (1834); Rüpp. Verz. Senck. Mus. p. 38, Osteol. p. 51 (1842).
Eleotragus eleotragus, Jent. Notes Leyd. Mus. ix. p. 172 (1837) (Mossamedes).
Antilope caerulescens, Link, Beytr. Nat. ii. p. 99 (1795).
Antilope oreotragus, Bechst. Syst. Uebers. vierf. Th. i. p. 80 (1799) (*nec* Schreb.).
Antilope arundinaceus, Bechst. op. cit. i. p. 81 (1799), ii. p. 644 (1800); Shaw, Gen. Zool. ii. p. 347 (1801); Huet, Bull. Soc. Acclim. 1887, p. 485.

- Cemas arundinacea*, Oken, Lehrb. Nat. iii. pt. 2, p. 740 (1816).
- Eleotragus arundinaceus*, Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846); id. List Ost. B. M. p. 57 (1847); id. Knowsl. Men. p. 12 (1850); id. P. Z. S. 1850, p. 126; id. Ann. & Mag. N. H. (2) viii. p. 144 (1851); id. Cat. Ung. B. M. p. 91 (1852); Gerr. Cat. Bones Mamm. B. M. p. 138 (1862); Kirk, P. Z. S. 1864, p. 657 (Zambesia); Drumm. Large Game S. Afr. p. 397 (1875); Gray, Cat. Rum. B. M. p. 18 (1872); id. Hand-l. Rum. B. M. p. 88 (1873); Bryden, Kloof and Karroo, p. 297 (1889); Bocage, J. Sci. Lisb. (2) v. p. 28 (1890) (Angola).
- Cervicapra arundinacea*, Selous, P. Z. S. 1881, p. 758 (distribution); id. Hunter's Wanderings S. Afr. p. 216 (1881); Crawshay, P. Z. S. 1890, p. 653 (Nyasa); W. Sci. Cat. Mamm. Calc. Mus. ii. p. 164 (1891); Lorenz, Ann. Mus. Wien, ix. Notizen, p. 61 (1894).
- Antilope cinerea*, Bechst. Syst. Uebers. vierf. Th. ii. p. 643 (1800); Afzel. N. Act. Ups. vii. p. 250 (1815).
- Antilope isabellina*, Afzel. N. Act. Ups. vii. p. 250 (1815); Goldf. Schr. Säug. v. p. 1226 (1818); Desm. Mamm. ii. p. 460 (1822); H. Sm. Griff. An. K. iv. p. 240, v. p. 338 (1827); Licht. Darst. Säug. pl. x. (♂) (1827); Smuts, En. Mamm. Cap. p. 76 (1832); Schinz, Syn. Mamm. i. p. 411 (1845); id. Mon. Antil. p. 15, pl. xv. (1848); Peters, Säug. Mossamb. p. 189 (1852).
- Redunca isabellina*, A. Sm. S. Afr. Quart. J. ii. p. 210 (1834).
- Redunca isabellina*, varr. *multiannulata*, *caffra*, and *algoensis*, Fitz. SB. Wien, lix. 1, p. 169 (1869).
- Eleotragus isabellinus*, Gray, List Mamm. B. M. p. 165 (1843); Temm. Esq. Zool. Guin. p. 191 (1853); Jent. Cat. Mamm. Leyd. Mus. (Mus. P.-B. ix.) p. 159 (1892).
- Cervicapra isabellina*, Sund. Pecora, K. Vet.-Ak. Handb. 1844, p. 194 (1846); id. Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 146; Reprint, p. 70 (1848); Sci. List An. Zool. Soc. (8) p. 144 (1883).
- Eleotragus reduncus*, Gray, List of Mamm. p. 165 (1843) (*nec* Pall.).
- Antilope oleotragus*, Desmoul. Dict. Class. d'H. N. i. p. 446 (1822); Gerv. Dict. Sci. Nat. i. p. 261 (1840); Less. N. Tabl. R. A., Mamm. p. 177 (1842).

VERNACULAR NAMES:—*Reedbuck* of English and *Reitbok* of Dutch Cape Colonists. *Inhlango* of Kaffirs (*Drummond*); *Cipohata* of Bechuanas (*Nicolls & Eglington*); *Imsigi* or *Umsagoka* of Zulus; *Ihlangu* of Swazis (*Rendall*); *Imzeegee* of Matabili; *Ee-bee-pa* of Makalakas; *Imvwee* of Masubias; *Umvwee* of Makubas; *Bemba* of Masaras (*Selous*); *Nsengo* at Sena and Tette (*Kirk*); also *Poyo* at Tette (*Peters*). In Nyasaland, *Mpoyo* of Anyanja; *Ndopi* of Ajawa; *Mzigi* of Angoni; *Swye* of Ahenga and Amyika; *Iswera* of Ankonde (*Crawshay*). *Nuxe* in Angola (*Bocage*).

Size comparatively large; height at withers about 36 inches. General colour greyish fawn, very finely grizzled with brown. Head and neck clearer fawn. Face-markings generally absent, but a brown patch on the muzzle in some specimens, and on the crown between the ears in others; chin white. Backs of ears pale fawn, not black-tipped; a whitish patch at the base of the ears surrounding the auricular gland, which in young specimens is covered with short velvety-white hairs, and in old animals is entirely naked. Belly white. Fore legs generally black in front, from the knee downwards, fawn externally and white internally; hind legs also commonly marked with black on the lower part of the cannon-bone, otherwise fawn, but on both fore and hind limbs the dark markings are sometimes absent. Tail thick, bushy, reaching halfway to the hocks; fawn above and all round the base, white below and at the tip.

Horns evenly divergent, curved backwards and upwards; never strongly hooked at their tips. At their bases the growing pad, which in other species is absorbed at maturity, remains persistent throughout life as a soft rounded swelling. In length the horns of the adults attain from 14 to 16 inches.

Skull-measurements of an adult male:—basal length 10·3 inches, greatest breadth 4·7, muzzle to orbit 6·3.

Female like the male, but without horns.

Hab. South Africa, as far north as Angola on the west, and Mozambique on the east. (Whether *C. bohor* is only a smaller northern form of *C. arundinum* is as yet uncertain.)

The Reedbucks, although closely allied to the Waterbucks and hardly to be distinguished from them in osteological characters, as has been shown by Turner*, are easily recognized externally by the forward turn of their horns and by the naked glandular spot which is always present to a greater or less extent on the sides of the head beneath the ears. Of the five species of Reedbuck which we treat of in the present work, three were known to the writers of the last century; but they have been much confused together, even by some of the more recent authorities, and it is a difficult task to unravel their complicated synonymy.

* In his paper on the generic subdivision of the Bovidæ, P. Z. S. 1851, p. 170.

We will begin with the finest and largest species of this group, the well-known Reedbuck of the English colonists of the Cape, large specimens of which attain a height at the shoulders of thirty-six inches or more. Like the White-tailed Gnu, the Reedbuck was first described at Amsterdam by Allemand, whose account of it is quoted by Buffon in the sixth volume of his supplement to the 'Histoire Naturelle,' published in 1782. Buffon gives rough uncoloured figures of both sexes of this animal, under the name of "Le Ritbok," which he adopts from Allamand. Upon Buffon's "Ritbok" Boddaert, in his 'Elenchus Animalium' three years later, established his "*Antilope arundinum*," and thus furnished the first specific name of the present species. In 1787 Schreber issued a copy of Buffon's figure of the male "Ritbok" with the name *Antilope eleotragus* upon it—a term which has been frequently adopted by the older authors, but which, as will be seen, is clearly subsequent in date to that of Boddaert. Bechstein, Shaw, and other authors following them have used *arundinaceus*, the adjectival form, as the specific term of the Reedbuck; but we see no reason for departing from Boddaert's term of *arundinum*, which is perfectly good grammar.

In 1815 Afzelius, in the course of his learned commentary 'De Antilopis speciatim Guineensibus,' published at Upsala, introduced further complications into the subject by dividing the Reedbuck into two species. One of these he called "*Antilope cinerea*," based upon the "Ritbok" of Allamand; and the second *Antilope isabellina*, founded upon a South-African specimen in Thunberg's collection. So far as we can make out, however, Afzelius shows no valid reason for distinguishing the latter species from the former, and we believe that both these names may be safely referred to *Cervicapra arundinum*. It should be noted also that in his 'List of Mammals in the British Museum,' published in 1843, Gray called the Reedbuck of the Cape *Eleotragus reduncus*, whereas the specific term *reduncus* properly appertains to the "Nagor"—the West-African species, of which we shall treat further on. In his subsequent writings, Gray usually reverted to the more correct specific term "*arundinaceus*" for the present species, but sometimes called it "*isabellinus*."

Harris, in his great work on the 'Game and Wild Animals of Southern Africa,' published in 1840, figures the "Reitbok," as he calls it, in his twenty-seventh portrait, along with the Wart-hog, and with an appropriate landscape of reeds and water. In those days the Reedbuck appears to have

been common throughout the Colony, and is described by Harris as follows:—"This species resides either in pairs or in very small families along the margins of springs and swampy ground abounding in flags and rushes, or among the sedges that choke the channel of desiccated torrents, which flow only during the winter season. Specimens occurred throughout our route, chiefly to the eastward of the Colony, and in the tropical streams 'mongst reeds and willows that o'erhang the flood'; but owing to the shy and secluded habits of the animal, it was not often seen, nor is it in fact anywhere so common as on the western coast, where the attraction of water—a rare element in those barren regions—sometimes causes it to congregate in the open plain."

Twenty years later, in 1861, Mr. Layard states that the Reedbuck was hardly then to be met with within the Colony! It is, however, as we are informed by Mr. W. L. Sclater, still to be found even up to the present day, though rarely, on some places on the east coast (Bathurst and Komgha), and in considerable numbers in the adjoining countries. Writing in 1881, Mr. Selous tells us that a few were then still to be found in the Transvaal, and that in Matabeleland and Mashonaland, on both slopes of the watershed, it was very common along the banks of the rivers. On the Manica plateau north of the Zambesi, Mr. Selous found Reedbucks particularly abundant, and had seen as many as eight at one time feeding in close proximity one to another. He remarks, however, that they are animals that go in pairs, and in this particular differ altogether from the various Waterbucks, which consort together in herds of not more than one male to ten females.

Messrs. Nicolls and Eglinton, in their 'Sportsman in South Africa,' the most recent authority on this subject, give us the following account of the present distribution of the Reedbuck and of its habits:—"It is now extremely rare to meet with this species in the Transvaal, except along some of the rivers in the north-eastern districts, and in Bechuanaland it is virtually extinct, although five years ago it was fairly common in the reeds of the Molopo, close to the site of the present town of Mafeking. In portions of the British Protectorate bordering the Crocodile River, and along its north-western tributaries, the Reedbuck may still occasionally be met with, but nowhere there in plenty. In the low country on the east coast about the Pungwe and Sabi Rivers it is extremely numerous. On those rivers of

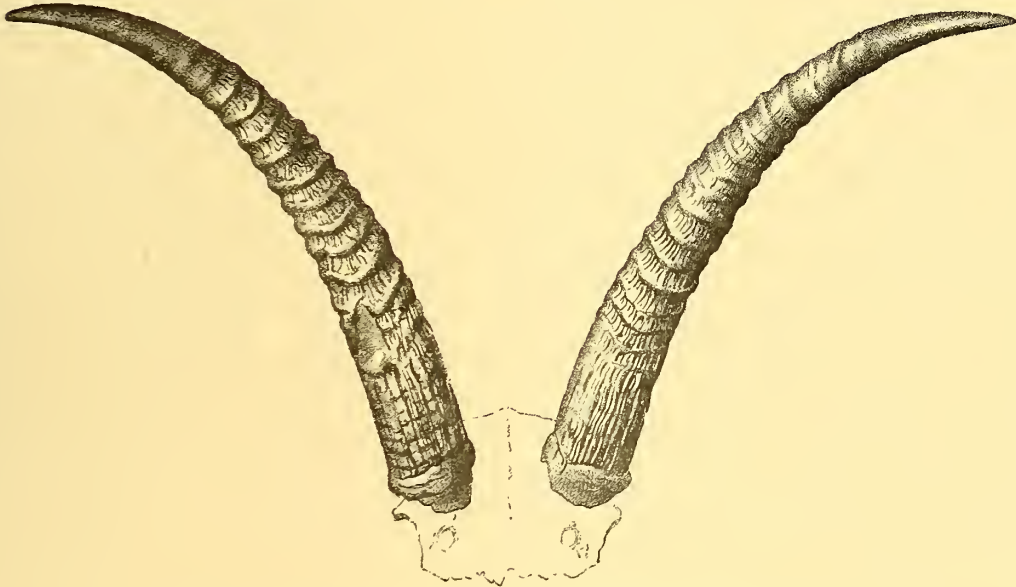
Mashonaland and Matabeleland which are margined with reeds, and where it has not been driven out by the natives and the prospectors, it may be in places plentifully found. But along the Chobe, Mababe, Tamulakani, and Botletle Rivers (where the banks are not precipitous) it is still quite common. In the dry reed-patches bordering Lake Ngami, the Taouhe, and Okavango, as far up as Indalis, from which the water recedes during several months of the year, the Reedbuck is particularly numerous; so much so as to lead to the erroneous impression that this antelope is gregarious, so many often being observed together at one time. It is usual to find the rams and ewes consorting in pairs, accompanied by a couple of their immature progeny, usually frequenting dry patches of reeds; but when these become flooded they often resort to the bush in the immediate vicinity of water. Although always found in proximity to the latter element, the Reedbuck when pursued will never take refuge in it; but in endeavouring to escape will direct its course right away from the river-beds towards the shelter of the thick bush, and, where such is not at hand, even into the open country. When suddenly alarmed, the males sometimes give vent to a whistle resembling that of the Red Rhébok (*Cervicapra fulvorufula*). This species is rather easily approached, and the gallop being slow and regular, it is perhaps the easiest of the South-African antelopes to shoot; but, at the same time, it must be remarked that this, like all the other water-resorting varieties, possesses an extraordinary amount of vitality. The flesh is scarcely palatable, but the liver is considered a tit-bit."

There is still much left to be ascertained about the range of the Reedbuck towards the north. On the west coast it certainly extends into Angola, where specimens have been recorded by Prof. Bocage, while Dr. Jentink includes it amongst the Mammals of Mossamedes, and registers examples in the Leyden Museum from Damaraland and Benguela. Far up the east coast it seems to be abundant in Nyasaland. Mr. Crawshay, in his "Field-Notes" on the Antelopes of this Protectorate (P. Z. S. 1890), considers it quite as widely distributed there as the Waterbuck, though in fewer numbers. He found it, perhaps, in greatest abundance on the vast swampy plains at the foot of the Wa-Kinga mountains, north-west of the lake. In their habits, he says, they are decidedly local, and day after day the same animals can be found in the same spot: they are specially partial to bare sandy patches and open plains, well away from cover:---"When alarmed they give vent to shrill screams,

and bound off, kicking up their hind legs and tossing up their tails like rabbits. Their tails are thick and bushy, and, being white on the underside, present a striking appearance when their owners are making off." Although they have a strong scent, Mr. Crawshay considers their flesh "better than that of any other antelope except that of the Impala and Eland."

Amongst other hunters' trophies from Nyasaland which Major F. C. Trollope has kindly allowed us to examine is a fine pair of horns of this Antelope, of which we give a figure. They measure 17 inches from the

Fig. 37.



Horns of *Cervicapra arundinum* from Nyasaland (Major Trollope).

base to the tip along the curve and the distance between the points is $19\frac{1}{2}$ inches.

In German East Africa, Dr. Matschie records the Reedbuck as having been obtained by Böhm, and observed by Neumann in several localities, although the latter traveller did not bring home specimens. Dr. Matschie seems a little doubtful as to its exact identity with the Reedbuck of the Cape, and it is probably somewhere here that *C. bohor* from the north inosculates with *C. arundinum*.

Reedbuck, even in the same district, appear to vary much in size, in

colour, and in other external characters, and some authorities have attempted to divide them into several species. Sundevall, in his 'Expositio Pecorum,' has described four varieties of the present animal, remarking that all the specimens he has examined varied a little amongst themselves. Besides the differences in the direction of the hairs on the head, to which he alludes, there is much variation in the amount and in the depth of the dark markings on the feet, which are quite black in some examples and brown in others. Our figure (Plate XLIII.), which has been put upon the stone by Mr. Smit from an original drawing by Wolf (kindly lent to us by Sir Douglas Brooke), shows this particular feature in its less decided form. It was probably taken from a mounted specimen in the British Museum, but we regret to say there is no absolute certainty upon this point.

Living specimens of the Reedbuck are occasionally brought to Europe, but are rarely seen in our menageries, and do not bear captivity easily. The Zoological Society of London received examples of this species in 1864, 1865, and 1879, but none of them lived long in the Gardens.

February, 1897.

71. THE BOHOR.

CERVICAPRA BOHOR (RÜPP.).

- Antilope redunca*, Rüpp. N. Wirb. Abyss. p. 20, pl. vii. fig. 1 (1835) (Woggera, Abyssinia) (*nec* Pall.).
- Eleotragus reduncus*, Heugl. Ant. u. Büff. N.O.-Afr. (N. Act. Leop. xxx. pt. 2), p. 11 (1863); Sclat. P. Z. S. 1864, p. 101 (Usagara, *Speke*); Jent. Cat. Mamm. Leyd. Mus. (Mus. P.-B. xi.) p. 150 (1892).
- Redunca bohor*, Rüpp. Verz. Senck. Mus. p. 38, Osteol. p. 50 (1842); Fitz. SB. Wien, lix. pt. 1, p. 169 (1869).
- Antilope (Redunca) bohor*, Wagn. Schr. Säug. Suppl. iv. p. 425 (1844), v. p. 432 (1855).
- Cervicapra bohor*, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 195 (1846); *id.* Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 146; Reprint, p. 70 (1848); Scl. List An. Zool. Soc. (8) p. 144 (1883), (9) p. 153 (1896); Günth. P. Z. S. 1890, p. 604; Flow. & Lyd. Mamm. p. 340 (1891); Ward, Horn Meas. (1) p. 93 (1892), (2) p. 136 (1896); Lyd. Horns and Hoofs, p. 229 (1893); Jackson, Badm. Big Game Shooting, i. pp. 285 & 297 (1894); Matschie, Thierw. Ost-Afr., Säug. p. 128 (1895).
- Eleotragus bohor*, Temm. Esq. Zool. Guin. p. 191 (1853).
- Eleotragus arundinaceus*, Heugl. Ant. u. Büff. N.O.-Afr. (N. Act. Leop. xxx. pt. ii. p. 11 (1863) (Sobat); Pagenst. JB. Hamb. ii. p. 36 (1884) (Maurui, Masailand); True, Pr. U. S. Nat. Mus. xv. p. 472 (1892) (Kilimanjaro).
- Antilope arundinacea*, Schweinf. Herz von Afrika, ii. pp. 465 & 534 (1874).
- Cervicapra arundineum*, Lugard, E. Afr. i. p. 538 (1893) (Ruwenzori).
- Kobus*, sp. inc., Scl. P. Z. S. 1864, p. 103 (Uganda).
- Reed-buck*, Hunter, in Willoughby's E. Africa, p. 289 (1889).

VERNACULAR NAMES:—*Xondieh* in Arabic; *Behor* or *Bohor* in Amharic (*Rüppell & Heuglin*); *Oboor* of the Madi (*Baku*, fide *Günther*); *Küo* in Dinka; *Pohr* in Djur; *Jalo* in Bongo; *Joro* in Niam-Niam; *Ngallah* in Golo; *Djiang* in Ssehre (*Schweinfurth*); *Njasa* in Uganda (*Lugard*); *Porhi* in Swahili (*Hunter*), also *Toi* or *Tohi* (*Jackson*).

Nearly similar to *C. arundinum*, but decidedly smaller, and with the horn more hooked at their tip. As the hooked tip, however, gradually wears off, and the horns grow up straight from their bases, even this difference tends to disappear in quite adult specimens. The horns attain a length of from 10 to 13 inches. The tail is rather shorter and less bushy than in *C. arundinum*, and the black markings of the limbs are less defined than in well-marked examples of that species. In the general colour there is also less difference between the head and the body than in *C. arundinum*, both being fawn-coloured.

Skull dimensions of an old male :—Basal length 9 inches, greatest breadth 4·3, muzzle to orbit 5·35.

Female. Like the male, but hornless.

Hab. Abyssinia and East Africa, southward to Kilimanjaro.

The great explorer of Abyssinia, Rüppell, was the first to obtain specimens of the Reedbuck in that country, although its existence there had, perhaps, been vaguely alluded to by Bruce in his 'Travels.' Rüppell was at first inclined to refer the Abyssinian animal, which he met with in the plains of Woggara, to *C. redunca*, but at a later period, when he had had an opportunity of comparing its skull with that of the West-African species, came to the conclusion that it was distinct, and changed its specific name to "*bohor*." "*Cervicapra bohor*" has therefore been generally adopted as the appellation of the East-African Reedbuck, although, as yet, we are far from being well acquainted with this animal and the points of its distinctions from its congeners.

Heuglin, in his memoir on the Antelopes of North-east Africa, enumerates this species still under the name *redunca* of Pallas, but quotes the plate of *Antilope bohor* in Rüppell's 'Atlas,' and gives its native Amharic name as "Behor." Heuglin met with it in small troops in the bushy plains and hills of the provinces of Woggara, Dembea, Begemeger, and Foggara in Abyssinia, at a height of from six to eight hundred feet above the sea-level. Heuglin was not certain as to having encountered this Antelope in the districts west of the Nile, but believed that a female specimen which he obtained in November 1853, in Southern Kordofan, must have belonged to it. According to Dr. Günther (P. Z. S. 1890, p. 607), Sir Samuel Baker met with the Bohor among the Madi tribes on the White Nile between 4° and 2° 30'

N. lat., and supplied him with a sketch of the skull which enabled him to identify the species.

We have as yet no records of any Reedbuck having been obtained in Somaliland, but when we go further south to British East Africa we have good evidence from several trustworthy observers of its existence in that country. It is a difficult question, however, and one which is by no means yet decided, whether the East-African Reedbuck is the same as the Abyssinian "Bohor."

Dr. Günther was the first to interest himself in this subject, and contributed a paper on it to the Zoological Society's 'Proceedings' in 1890. Taking the skull of an adult male Reedbuck, obtained by Mr. H. C. V. Hunter in British East Africa, he pointed out the differences between it and the South-African Reedbuck called *C. redunca* by Gray, which is in fact *C. fulvorufula* of the present work. By the kind permission of the Zoological Society of London we are enabled to reproduce the woodcuts of the portions of the skull of these two Antelopes upon which Dr. Günther based his conclusions, and we add thereto Dr. Günther's descriptions of these differences.

"*Cervicapra fulvorufula** (fig. 38, p. 168) is distinguished by its very large orbit; in a skull 230 millim. long the vertical dimension of the orbit is 45 millim.; the eyeball is supported below by a largely expanded concavity of the jugal bone, the lower edge of the orbit being particularly sharp and thin, merging into the suture between the jugal and lacrymal bones. The cheek part of the skull is flat, rather concave, so that the facial portion of the cranium between the orbit and the antorbital foramen appears rather compressed when viewed from above. The ascending ramus of the intermaxillary reaches to, or nearly to, the nasal bone. The horns are but slightly divergent and very little bent forwards.

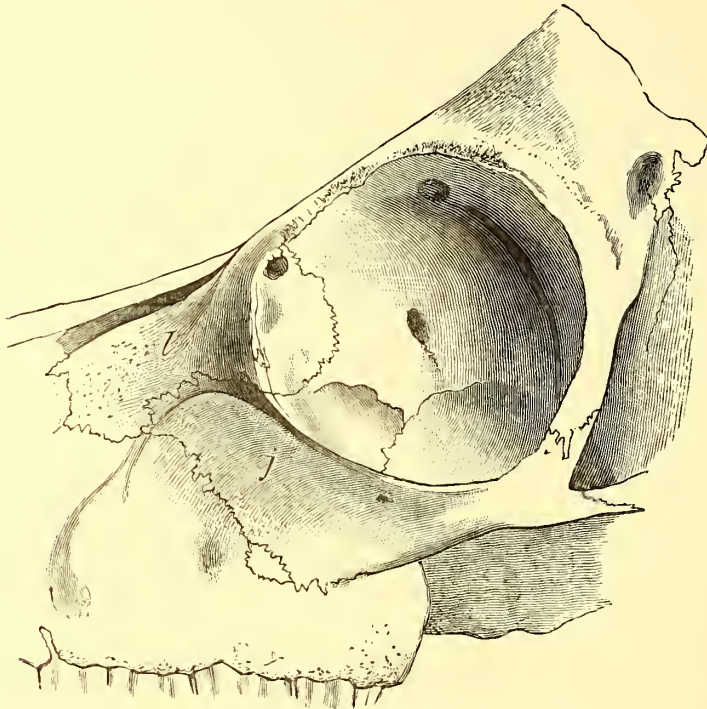
"In *Cervicapra bohor* (fig. 39, p. 169) the orbit is comparatively smaller; in a skull 245 millim. long the vertical diameter of the orbit is only 40 millim.; the jugal bone is much less expanded to form the bottom of the orbital cavity; the lower rim of the orbit has two edges, the lower of which does not merge into the jugo-lacrymal suture, but runs parallel to it at a distance of about 8 millim. The cheek part of the skull is swollen and convex, so that the facial portion of the cranium above the molar teeth cannot be termed

* Dr. Günther, using the name given by Gray, speaks of this skull as that of *C. redunca*, but it certainly belongs to *C. fulvorufula*.

compressed. The ascending ramus of the intermaxillary is short, terminating at a considerable distance from the nasal bone."

Dr. Günther adds that the horns of *C. bohor* are much stronger and larger than in *Cervicapra fulvorufula*; their basal portion is somewhat flattened from the front backwards, but similarly corrugated; they diverge very slightly

Fig. 38.



Skull of *Cervicapra fulvorufula*.—*j*, jugal; *l*, lacrymal.
(P. Z. S. 1890, p. 604.)

and have their points strongly curved forwards. He also says that the skull of a female Antelope brought home by Capt. Speke and given to the Museum in 1863 evidently belongs to *C. bohor**; it has the basal portion of the nasal bones raised into a slight convexity, whilst this part is flat in the male. A similar sexual difference exists in the skulls of *Cervicapra arundinum*.

Assuming Dr. Günther's view to be correct, and that the Redbuck of

* In Selater's List of Speke's Mammals (P. Z. S. 1864, p. 103) this skull was referred to "*Kobus*, sp. inc."

British East Africa is truly referable to *Cervicapra bohor*, we will proceed to recount what has been said about it by the leading authorities on the antelopes of this country. Mr. Hunter, from whom, it will be recollected,

Fig. 39.



Skull of *Cervicapra bohor*.—*jl*, jugo-lacrymal suture; *o*, lower edge of infra-orbital rim.
(P. Z. S. 1890, p. 605.)

Dr. Günther obtained the specimen upon which he made his observations, tells us that the Reedbuck met with in the district of Kilimanjaro is usually found in the early morning and evening feeding near the edges of the reedy swamps, and when disturbed immediately runs into the rushes. Mr. Hunter and his companions found it very common in a large swamp near Mikundune, to the south-west of the mountain. Mr. Jackson, who calls the same antelope the "Lesser Reedbuck," and gives its Swahili name as "Toi" or "Tohi," tells us that this species is very local in British East Africa, and, as a

rule, frequents only the vicinity of rivers and swamps that are never dry. He found it on the shores of Lake Jipi, and on the river Ziwa, to the east of Kilimanjaro, and in a few other places. He also saw on the hills to the north-west of Machako's several small herds of it, which had evidently been driven up there by the grass-fires in the plains. Mr. Jackson remarks that these Reedbucks give a shrill whistle when disturbed, and are very shy and difficult to stalk, but that in long grass they lie close and sometimes allow the sportsman to approach to within twenty or thirty yards of them.

In the large series of mammals obtained by Dr. Abbott in the district of Kilimanjaro, which has been described by Mr. True, there were two young male specimens of a Reedbuck which were referred by Mr. True to *C. arundinum*, but which belonged no doubt to the present species (if distinct).

This species is so like *C. arundinum* in its general external characters that we have not thought it worth while to give a special figure of it. Besides the skull in the National Collection presented by Mr. H. C. V. Hunter, and used for description by Dr. Günther, as mentioned above, and the female head from Uganda obtained by Speke, also already spoken of, there are in the British Museum two good specimens, adult and young, presented by Major Kenrick. The more adult of these, as Major Kenrick kindly informs us, was shot in July 1892, about six miles east of Kiumengelia, at the north-east corner of the Kilimanjaro range, and the younger one in August of the same year on the banks of the Pangani River, both these places being now within the limits of German East Africa.

Reedbucks, as we have already stated, do not, as a rule, do well in captivity. The Zoological Society of London have on two occasions (in 1877 and 1883) received female Reedbucks from East Africa which have been referred with some doubt to the present species. In neither instance, however, did they live long in the Society's Gardens.

February, 1897.



Wolff del., J. Smit lith.

The Nagor
CERVICAPRA REDUNCA

Published by R. H. Porter

Hanhart imp.

72. THE NAGOR.

CERVICAPRA REDUNCA (PALL.).

[PLATE XLIV.]

- Le Nagor*, Buff. Hist. Nat. xii. p. 326, pl. xlvi. (1764) (Goree Isl., Senegambia).
- Antilope reversa*, Pall. Misc. Zool. p. 5 (1766) (nec *Capra reversa*, L.).
- Antilope redunca*, Pall. Spic. Zool. i. p. 8 (1767), xii. p. 13 (1777); Müll. Natursyst. Suppl. p. 53 (1776); Erxl. Syst. R. A. p. 281 (1777); Zimm. Spec. Zool. Geog. p. 541 (1777); id. Geogr. Gesch. ii. p. 114 (1780); iii. expl. to chart, p. 9 (1783); Gatt. Brev. Zool. i. p. 81 (1780); Herm. Tab. Affin. Anim. p. 108 (1783); Schreb. Säug. pl. cclxv. (1785); Bodd. Elench. Anim. p. 141 (1785); Gmel. Linn. S. N. i. p. 184 (1788); Kerr, Linn. An. K. p. 308 (1792); Donnd. Zool. Beytr. i. p. 624 (1792); Link, Beytr. Nat. ii. p. 98 (1795); Bechst. Syst. Uebers. vierf. Th. ii. p. 643 (1800); Shaw, Gen. Zool. ii. pt. 2, p. 360 (1801); Turt. Linn. S. N. i. p. 112 (1802); Desm. N. Dict. d'H. N. (1) xv. p. 330 (1803), xxiv. Tabl. p. 32 (1804); G. Cuv. Dict. Sci. Nat. ii. p. 243 (1804); Tiedem. Zool. i. p. 409 (1808); Licht. Mag. nat. Fr. vi. p. 170 (1814); G. Fisch. Zoogn. iii. p. 410 (1814); Afzel. N. Act. Ups. vii. p. 220 (1815); Desm. N. Dict. d'H. N. (2) ii. p. 188 (1816); Goldf. Schr. Säug. v. p. 1200 (1818); Schinz, Cuv. Thierr. i. p. 395 (1821); Desm. Mamm. ii. p. 458 (1822); H. Sm. Griff. An. K. iv. p. 238, v. p. 338 (1827); Less. Man. Mamm. p. 375 (1827); J. B. Fisch. Syn. Mamm. p. 464 (1829); Less. Compl. Buff. x. p. 290 (1836); Oken, Allg. Nat. vii. p. 1385 (1838); Laurill. Dict. Univ. d'H. N. i. p. 621 (1839); Gerv. Dict. Sci. Nat. i. p. 261 (1840); Less. N. Tabl. R. A., Mamm. p. 177 (1842); Wagn. Schr. Säug. Suppl. iv. p. 426 (1844), v. p. 431 (1855); Schinz, Syn. Mamm. ii. p. 425 (1845); Rüpp. Mus. Senckenb. iii. p. 182 (1845); Gieb. Säug. p. 314 (1853-5); Huët, Bull. Soc. Acclim. 1887, p. 267.
- Cerophorus (Cervicapra) redunca*, Blainv. Bull. Soc. Philom. 1816, p. 75.
- Eleotragus reduncus*, Gray, Ann. Mag. N. H. (1) xviii. p. 232 (1846); id. Knowsl. Men. p. 13, pl. xiii. (1850); id. P. Z. S. 1850, p. 127; id. Ann. & Mag. N. H. (2) viii. p. 145 (1851); id. Cat. Ung. B. M. p. 94 (1852); Temm. Esq. Zool. Guin. p. 191 (1853); Gray, Cat. Rum. B. M. p. 18 (1872); id. Hand-l. Rum. B. M. p. 88 (1873); Jent. Cat. Ost. Leyd. Mus. (Mus. Pays-Bas, ix.), p. 130 (1887); Huët, Bull. Soc. Acclim. 1887, p. 84.
- Cervicapra redunca*, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 195 (1846); id. Horschuch's Transl., Arch. Skand. Beitr. ii. p. 146; Reprint, p. 70 (1848);

- Flow. & Lyd. Mamm. p. 340 (1891); Lyd. Horns and Hoofs, p. 228 (1893);
 Scl. P. Z. S. 1890, p. 698; id. List of An. Zool. Soc. (9) p. 153 (1896).
Redunca redunca, Fitz. SB. Wien, lix. 1, p. 169 (1869).
Antilope rufa, Afzel. N. Act. Ups. vii. p. 250 (1815).
*Ourebi du Sénégal**, F. Cuv. Hist. Nat. (fol.) iii. livr. lx., imm. ♀ (1829), whence
Antilope fulva, Schinz, Mon. Antil. p. 17 (1848).
Redunca nagor, Rüpp. Verz. Senck. Mus. p. 38, Ost. p. 51 (1842).

VERNACULAR NAME:—*Wonto* of natives on the Gambia (Gray, fide *Whitfield*).

Size decidedly smaller than in the previous species, the height at the withers only about 27 or 28 inches. Colour uniform bright fawn generally, without darker markings on the limbs; head and body quite alike. Tail comparatively short and little bushy, fawn above, white below.

Horns very thick in proportion to the size of the animal, 5 inches in circumference at the base but only about 8 to 10 inches long. Their terminal portion is strongly turned forwards, a character most marked in rather young specimens before the long straight basal part has grown.

Dimensions of a male skull:—Basal length 8.1 inches, greatest breadth 3.8, muzzle to orbit 5.

Female similar, but hornless.

Hab. West Africa north of the forest region (Senegal and Gambia).

The Reedbuck of West Africa was somewhat vaguely described by Buffon, in his 'Histoire Naturelle,' from a stuffed specimen in the cabinet of Adanson, which had been obtained from the island of Goree on the coast of Senegal. Fortunately Buffon added a tolerably recognizable figure of the "Nagor," as he proposed to call it (from its fancied resemblance to the "Nanguer," i. e. *Gazella dama*!), and taking this figure into consideration along with the locality, we can have little doubt as to its identity. In the first essay on the Antelopes, published in his 'Miscellanea Zoologica,' in 1766, Pallas suggested the name "*Antilope reversa*" for Buffon's "Nagor"; but in his second essay on the same subject, issued in the 'Spicilegia Zoologica' in 1767, Pallas changed this name, which had been already used by Linnæus for another animal, to *Antilope redunca*. There can be no doubt, therefore, that *redunca* is the proper specific name of the present

* This reference was put down on a previous occasion (Vol. II. p. 23) to *Ourebia nigricaudata*, but on finding that Schinz's name depended on it, a more careful study of the figure and description has been made, and we now consider that Sundevall's reference of it to the Nagor was probably correct.

species of *Cervicapra*, although this term has been applied by various authors, as will be seen by reference to our lists of synonyms, to three other species of the genus.

Beyond quoting Buffon's account of the "Nagor" and references to the authors who had adopted his description, little, if anything more, appears to have been added by subsequent writers to our knowledge of *Cervicapra redunca* until 1850, when the 'Gleanings' from the Knowsley Menagerie were published. In the letterpress to this work Gray appears to have confounded the present animal with *C. bohor*, and perhaps with *C. fulvorumfula*, but the plate of *Eleotragus reduncus* (tab. xiii.) seems to represent a male and young one of the present species. In the letterpress we are told that a "young male" was then living at Knowsley, and, so far as we can understand the remarks, had been obtained from the Gambia, where Whitfield had given its native name as "Wonto." Again, from 1850 to the present period there has been an almost complete blank in the history of the West-African Reedbuck. No examples of it appear to have been received either by the British Museum or at Leyden, and the species seems to have remained (even up to the present time) unrepresented in most of the great National Collections, except in Paris, where there are two mounted males from Senegal, besides other specimens formerly living in the Menagerie, and in the Senckenbergian Museum at Frankfort-on-the-Main, where, according to Rüppell's list (Mus. Senk. iii. p. 182), there is also a specimen of it, which enabled him to realize the differences between this species and *C. bohor*.

It was not until 1890 that the Zoological Society of London received their first living specimen of this scarce Antelope. This was a young male brought home from the Gambia and presented to the Society, along with a young male Harnessed Antelope, by Dr. Percy Rendall, F.Z.S., on the 23rd of June of that year. A photograph presented by Dr. Rendall to Sclater, which was taken at Bathurst in August 1889, represents the Harnessed Antelope, at that time one year old, and the little Nagor, then only four months old, being fed together by Dr. Rendall himself. The Nagor, we need hardly say, has long ago attained its full stature, and at the time we write (January 1897) is, we are glad to say, still living and thriving in the Zoological Society's Antelope-House.

It stands about 28 inches high at the shoulders, and is above of a nearly uniform reddish brown in colour, rather darker on the central line; the insides of the ears and the ocular region are white, the face being rather more rufous. The belly and inner sides of the limbs are whitish. The large

naked space beneath the ear is white and very noticeable. The tail is short, broad, and bushy, like the back above, and white beneath. The horns are black; the distance from their base to their tips is about $5\frac{1}{2}$ inches in a straight line; the muzzle is moist, naked, and black; and the hoofs are black.

Fig. 40.



Head of *Cervicapra redunca*. (In viv. Soc. Zool. Lond.)

So far as we know this is the only example of the Nagor that has reached Europe alive, except the specimens formerly in the Knowsley Menagerie and in the Jardin des Plantes of which we have already spoken.

Our figure of the present species has been put on the stone by Smit from a coloured sketch prepared for the late Sir Victor Brooke by Wolf. Through the kindness of Sir Douglas Brooke we have been able to examine the original drawing, which is marked on the back "*C. redunca*" in Sir Victor Brooke's handwriting, but we have no clue as to the original specimen from which it was taken.

February, 1897.



J. Smil lith.

The Roe Rhebok.
CERVICAPRA FULVORUFULA.

Published by R.H. Porter.

Hanhart imp.

73. THE ROI RHÉBOK.

CERVICAPRA FULVORUFULA (AFZEL.).

[PLATE XLV.]

-
- Antilope fulvorufula*, Afzel. N. Act. Ups. vii. p. 250 (1815) (*ex* Allamand, in Buff. Suppl. vi. p. 188 (1782); Goldf. Schr. Säug. v. p. 1226 (1818); H. Sm. Griff. An. K. iv. p. 239 (1827)).
- Antilope lalandia*, Desmoul. Dict. Class. d'H. N. i. p. 445 (1822); Less. Man. Mamm. p. 378 (1827).
- Antilope landiana*, Desm. Mamm. ii. p. 462 (1822).
- Antilope lalandii*, J. B. Fisch. Syn. Mamm. p. 467 (1829); Laurill. Dict. Univ. d'H. N. i. p. 621 (1839); Schinz, Syn. Mamm. ii. p. 415 (1845).
- Redunca lalandii*, A. Sm. S. Afr. Quart. J. ii. p. 210 (1834).
- Cervicapra lalandii*, Nicolls & Egl. Sportsm. S. Afr. p. 34, pl. i. fig. 4 (1892); Lyd. Horns and Hoofs, p. 228 (1893); Ward, Horn Meas. (2) p. 132 (1896); Rendall, P. Z. S. 1895, p. 359 (Transvaal).
- Antilope eleotragus*, Licht. Darst. Säug. pl. ix. (♂ ♀) (1827) (*nec* Schreb.); Smuts, En. Mamm. Cap. p. 75 (1832); Schinz, Mon. Antil. p. 15, pl. xiv. (1848).
- Cervicapra eleotragus*, Sund. Pecora, K. Vet.-Ak. Handl. 1844, p. 194 (1846); *id.* Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 145; Reprint, p. 69 (1848).
- Redunca eleotragus*, Fitz. SB. Wien, lix. 1, p. 169 (1869); Brehm, Thierl. iii. p. 222 (1880).
- Eleotragus eleotragus*, Jent. Cat. Ost. Leyd. Mus. (Mus. Pays-Bas. ix.) p. 130 (1887); *id.* Cat. Mamm. Leyd. Mus. (op. cit. xi.) p. 159 (1892).
- Eleotragus reduncus*, Bryden, Kloof and Karroo, p. 298 (1889).
- Cervicapra redunca*, Günth. P. Z. S. 1890, p. 604.
- Eleotragus arundinaceus*, Temm. Esq. Zool. Guin. p. 191 (1853) (*nec* Bechst.).
- VERNACULAR NAMES:—*Roi Rhébok* of Dutch and English Cape Colonists; *Njala* or *Ihlangu matse* (*i. e.*, Reedbuck of the Rocks) of the Swazi (*Rendall*).

Size about that of *C. redunca*; height at withers 28 inches. General colour greyish fawn, brighter, sometimes almost rufous, on the head and neck, greyer on the body. Chin, upper part of throat, belly, and inner sides of limbs white. Darker leg-markings absent or inconspicuous. Tail only reaching about to the level of the groin, very bushy, fawn above, white below.

Horns slender, not exceeding 4 inches in circumference, evenly curved upwards and forwards, but showing in a very marked degree the change of general form with age already referred to in the other species.

Skull measurements of an adult male:—Basal length 8·1 inches, greatest breadth 4·1, muzzle to orbit 5·1.

Female similar to the male, but hornless.

Hab. Eastern portion of South Africa south of the Zambesi, especially Natal, Zululand, and Bechuanaland.

Besides the ordinary Reedbuck of the Cape (which is that called in this work *Cervicapra arundinum*) the Dutch settlers have from an early date recognized the existence of a second species of the same group in eastern parts of the Colony, which, instead of frequenting banks of rivers, resorts to the terraces of the mountains, and is commonly called the “Roi Rhébok,” or “Red Roebuck.” Great confusion has prevailed for many years as to the proper scientific name of this species. By Lichtenstein and Sundevall it has been called “*eleotragus*,” and by Gray “*reduncus*”; but, according to our views, both these names are properly applicable to other species. Until lately we have used for it the specific term “*lalandii*,” it being in all probability the “*Antelope lalandia*” of Desmoulins, founded by that author in 1822 upon a specimen of a female Antelope in the Musée d’Histoire Naturelle obtained at the Cape by the well-known French collector Delalande. But we have lately found another older name for it, which, under the circumstances, we think we shall be justified in employing, although we must confess that in all these old names there is a considerable element of uncertainty. After describing the Reedbuck (*C. arundinum*) Allamand, in his edition of Buffon (as quoted by Afzelius), speaks of another similar animal of a darker colour, which is found in the mountains of the Cape Colony. Upon this variety of Allamand, Afzelius, in his memoir on Antelopes, published at Upsala in 1815, proceeds to establish a species *Antelope fulvorufula*. Between two uncertain

names, therefore, in order to avoid the necessity of proposing a new one, we will select the oldest and call the Roi Rhébok *Cervicapra fulvorufula*.

The earliest good description and figure of this species were published by Lichtenstein in the second Heft of his 'Darstellung der Säugethiere,' issued at Berlin about the year 1829. Here *Antilope eleotragus*, as he unfortunately calls it, is well distinguished by many characters from the larger Reedbuck (which Lichtenstein termed *A. isabellina*), and figures are given of it of both sexes.

Harris, during his extensive travels in South Africa in 1836 and 1837, curiously enough does not seem to have recognized this Antelope as a distinct species, but alludes to it in the letterpress to his 'Portraits' as a variety of the Reedbuck, "usually met with on high rocky mountains along the dry channels of upland streams." Of this supposed variety he had killed a single specimen in the Cashan range, but doubted whether it was more than a young individual of the well-known Reedbuck. But we have good accounts of the habits and distribution of this Antelope from more recent authorities, who take a very different view of its position.

The "Roi-raebuck," Mr. W. H. Drummond tells us, in his volume on the 'Large Game of South Africa,' published in 1875, though inhabiting thorny districts, prefers such as are on stony or broken ground. It is a fine large Antelope, but a little smaller than the Reedbuck, though its colour, he says, as its name implies, is of a reddish tinge.

Messrs. Nicolls and Eglington, writing in 1892 in their 'Sportsman in South Africa,' give a small but very recognizable representation of the head of the Red Rhébuck (see figure 4 of their first plate), and, after speaking of what has been called the "Lesser Reedbuck" (which is probably nothing more than this species under another English name), point out that the Red Rhébuck is quite a different animal from the true Reedbuck, and has totally different habits. The Red Rhébuck "runs in herds, often exceeding twenty in number, and invariably frequents the summits of hilly and mountainous districts, where there are no reeds and where water may be miles and miles distant"; whereas the Reedbuck is found "either in pairs or in parties, never exceeding four in number," only in low lying country along rivers which have reeds on their banks. "The one peculiarity common to both species is the fact that the males, when alarmed, give vent to a shrill whistle."

As regards the distribution of this species, the same writers inform us:—

“The Red Rhé buck is generally found in favourable localities all over that part of Africa south of the Zambesi, but more plentiful in the mountainous ranges of the Transvaal and the broken country in the Bechuanaland Protectorate, especially the vicinity of Sichele’s stronghold. Resorting to inaccessible places, it is nowhere by any means abundant, and consequently specimens are but seldom obtained. Like the Vaal Rhé buck (*Pelea capreolus*) one old ram of a herd constantly acts as sentinel while the remainder feed, and on the least approach of danger at once gives the alarm by shrilly whistling. The flesh is somewhat poor.”

In his recently published ‘Haunts of Wild Game,’ Mr. F. V. Kirby, F.Z.S., has given us an excellent account of his sporting wanderings in the north-eastern provinces of the Transvaal. Here this Reed buck, as he tells us, is now only found on the mountain-range of the Drakensberg. In former days, however, he had seen them amongst the foot-hills and well down in the flats in the district lying between the Sabi and Crocodile Rivers, where they run in small toops of from six to eight.

A letter received by Selater from Mr. Kirby in the summer of 1896 gives the following further particulars of this Antelope :—

“The so-called Rooi Rhé buck are usually found in pairs, or in small ‘clumpies’ (excuse the Dutch) of four or five. *Never* on the bleak open mountain-summits like *Pelea capreolus*, but always on the ‘hang’ of the mountains—the narrow terraces thickly covered with sugar-bush. They lie close like Reed buck, and when alarmed move off with a shrill whistle, like that of their *confrères*. Their action when in motion is also similar to that of *C. arundinum*—a sort of easy, free, rocking-horse motion, like a horse in a hand canter.

“The tail is always fan-spread, as in *C. arundinum*. The fur of the young animal is very woolly in texture, as in that of the young Reed buck. The flesh I consider decidedly coarse, quite as much as that of *Pelea capreolus*.

“When running off on being alarmed, a sharp whistle will usually bring them to a stand, under 200 yards. Amongst the rocks they are quite as active as Vaal Rhé buck, but unlike them, when alarmed, they never run up hill towards the summits, but invariably make down for the deep wooded kloofs. The young are born in October to December. I have seen Rooi Rhé buck running with Vaal Rhé buck (*Pelea capreolus*) in a troop, but only when all have been alarmed on the edge of the kloof together.”

Mr. F. C. Selous, who did not include the *Roi Rhébok* amongst the species met with in his 'Hunter's Wanderings,' published in 1881, subsequently obtained full particulars concerning this species, and has kindly favoured us with the following valuable notes:—

“The ‘*Rooi Rhébok*’ of the Boers is an inhabitant of arid stony hills, and wherever such hills are met with one may expect to find this handsome little Antelope throughout the Cape Colony, Natal, Zululand, the Orange Free State, the Transvaal, Bechuanaland, and the southern portion of the Bechuanaland Protectorate. In the west it does not range further north than Sichele’s country, and though plentiful in the parched-up stony hills scattered over the territory of that chief, it is unknown in very similar ground in Khama’s country, only a short distance further north; nor have I ever heard of its existence in any country to the north of the Limpopo River, and it is certainly unknown in Makalakaland, Matabeleland, and Mashunaland. In appearance the Red Rhé buck looks very much like a miniature Reedbuck, but on a close inspection, although the resemblance between the two species is very close, certain points of difference will be noted. Both species have a large fluffy tail, which they throw up when alarmed, exposing the white under surface; the shape of the ears is the same in both, and both have bare spots about the size of a sixpence an inch below the base of the ears. There is not much difference in the colour of the two species, and the distribution of white on the underparts of each is the same. The character of the horns in the two species is, however, different, for although the male Red Rhé buck has horns crooking forwards like those of a Reedbuck, a pair of Red Rhé buck horns do not look like a pair of Reedbuck horns in miniature. The minor points of divergence would be difficult to explain, though apparent enough on comparison of actual specimens; but the most important difference is the absence in the Red Rhé buck of the soft cushion at the base of the horn, which is always present in the Reedbuck. This soft gristly cushion covered with black skin, at the base of the horn above the eye, is found in no other Antelope but the Reedbuck, and is never absent in this species, nor does it ever disappear or turn into horn with age, being invariably found at the base of the horns of the oldest males. In the Red Rhé buck the hair grows close up round the base of the horn, as in all other Antelopes, with the exception of the Reedbuck. In both species the females are hornless, and in both the alarm-call is a shrill whistle. Although the Red Rhé buck is so similar in shape, coloration, and general appearance that it looks like a miniature

Reedbuck, in its habits and mode of life it differs entirely from that species. The Reedbuck, as its name implies, loves the neighbourhood of rivers and lakes and swamps, and is never found far away from water. It does not occur in herds, but in small families, a male and female usually living together, the latter often accompanied by its last year's kid. It is worthy of remark, however, that the Reedbuck though, as a rule, it is a dweller on level ground on the borders of rivers and lakes, in some parts of the country may often be found on stony ridges where these latter are in the immediate vicinity of rivers, as is often the case in Mashunaland. As the Red Rhé buck is not found in any of the countries between the Limpopo and the Zambesi, through which my various hunting expeditions have led me, my knowledge of these little Antelopes is not very extensive. However, whilst journeying slowly from Port Elizabeth to the Diamond Fields by bullock-waggon first in 1871, and for the second time in 1876, I saw a considerable number of them both in the hills of the Cape Colony and in those of the Orange Free State, and shot in all about a dozen specimens. More recently, in the early part of 1888, I searched for and found a good many Red Rhé buck in the arid hills near Sechele's town *, and secured the heads of three fine males for my collection. According to my experience the Red Rhé buck is usually to be met with in small herds of from three or four to fifteen animals, only one full-grown buck being with the herd, though a young male or two with horns not fully developed may also be present. Old males at certain seasons leave the herds and live alone, as is the case with all other gregarious Antelopes. The hills on which I found Red Rhé buck were of no great altitude, rising as a rule from 500 to 1000 feet above the surrounding country. Often they were flat or table-topped, with a precipitous cliff of 50 or 60 feet in height just below the table-like summit. In such cases I often found the Red Rhé buck lying in the bushes just at the base of these cliffs. Where arid stony hills, which they are known to frequent, are intersected by ravines, in which grow a certain amount of scrubby bush, Red Rhé buck will most likely be found in the neighbourhood of such ravines. In my experience these Antelopes are usually to be met with well up the sides and near the tops of the hills which they frequent, and are best hunted from the summit of the hill, as they always run upwards when alarmed. In the hills where I last hunted Red Rhé buck in Sechele's country, there was absolutely no water whatever, and in the Cape

* In the southern part of the Bechuanaland Protectorate.

Colony and the Free State the hills are also for the most part arid and waterless ; so that these little Antelopes seem to be able to do without drinking water for several months in the year, as is the case with many other Antelopes in South-western Africa. I now forget the general colour of the Red Rhébucks I shot many years ago in the Cape Colony and the Orange Free State ; but the three males I last shot in the Bechuanaland Protectorate were fawn-coloured on the head and neck, and dark grey on the upper parts of the body.”

Fig. 41.

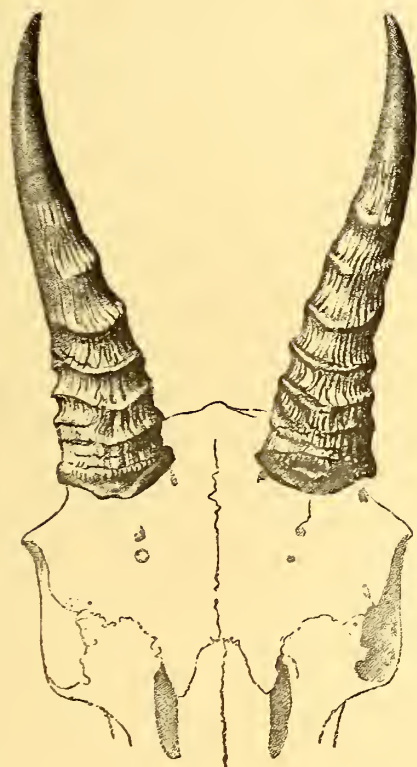


Fig. 42.

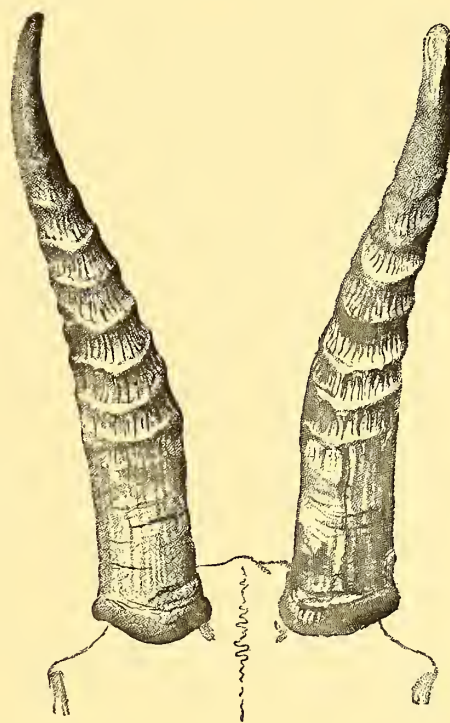
Fig. 41.—Horns of *Cervicapra fulvorufula*, not adult.

Fig. 42.— “ “ “ aged.

The corresponding rings in the two pairs of horns are placed opposite each other.

The change of shape of the horns in the Antelopes as the animals grow older, so frequently referred to in this work, is well marked in the present species, and we have therefore thought it worth while to illustrate these differences by figures (figs. 41 and 42). Figure 41 represents the horns of a young, or rather just adult, male, in which they have attained a length of about

$6\frac{1}{4}$ inches, and are evenly curved upwards to their slender points. Figure 42 shows those of an aged specimen, in which it will be seen that the sharp slender point has got more worn down, while at the same time a long straight basal portion has been added below. This change causes such a difference in the general appearance of the horns that authors have in many cases been led to suppose that the extremes represent different species. We therefore take the opportunity of pointing out how deceptive such appearances are, and how careful writers should be when they found species mainly on the characters presented by the horns. At the same time, the perfect identity of the curves in the part that is common to both specimens is very noteworthy, and shows how valuable horn-characters may be when skill and care are exercised in using them.

Our figure of this Antelope (Plate XLV.) has been taken by the kind permission of Mr. W. L. Sclater from a specimen of this species belonging to the South-African Museum at Cape Town, which had been sent home to Mr. Edward Gerrard of Camden Town to be mounted. It is an adult male and was obtained by Dr. D. R. Kannemeyer near Burghersdorp in the Cape Colony on the 28th May, 1894. The specimen stands about $27\frac{1}{2}$ inches high at the shoulders, and the body from the nape to the rump measures about 29 inches. The tail is very bushy, and measures at least 9 inches to the end of the hairs. The bare spot beneath the ear is very observable. The general colour of the specimen is well shown in Mr. Smit's figure.

February, 1897.

74. CHANLER'S REEDBUCK.

CERVICAPRA CHANLERI, ROTHSCH.

Cervicapra chanleri, Rothschild, Nov. Zool. ii. p. 53 (1895) ; Chanler, Through Jungle and Desert, p. 431 (cum tab.) (1896) ; Ward, Horn Meas. (2) p. 137 (1896).

Apparently similar to *C. fulvorufula* in all important respects. A dark stripe present on the top of the nose, similar to that often found in *C. arundinum* and *C. fulvorufula*.

Skull and horns exactly like those of *C. fulvorufula*. Dimensions of the typical skull, taken from a cast :—Basal length 7·65 inches, greatest breadth 3·9, orbit to tip of muzzle 4·8.

Hab. British East Africa, mountains east of Mount Kenia.

This recently described species has been founded upon a single specimen obtained by Mr. Astor Chanler, during his recent expedition into the interior of British East Africa, on the slopes of the Jambene mountains, about 45 miles N.N.E. of Mount Kenia. In his volume entitled 'Through Jungle and Desert,' in which an account of his expedition is given, Mr. Chanler speaks of this animal as follows :—"During the rains (of 1893) three small Antelopes visited the hill just above my camp (at Daicho*) and I was able to secure one of them. I felt convinced that it was a new species, so I carefully preserved its skeleton and skin. It proved to be a species of Reed-buck heretofore unknown, and has since been designated '*Cervicapra chanleri*.'"

Mr. Chanler's specimen of this Reedbuck was placed in the hands of Messrs. Rowland Ward & Co., of Piccadilly, for the purpose of being mounted,

* See Geogr. Journ. ii. p. 534 (1893).

Fig. 43.



Head of *Cervicapra chanleri*.
(From the typical specimen.)

and there attracted Mr. Ward's special attention, as he had previously seen a flat skin somewhat similar, and had called Mr. Chanler's attention to it before his departure on his expedition. Before sending the specimen to its destination in the United States National Museum at Washington, Mr. Ward showed it to Mr. Walter Rothschild as probably belonging to an undescribed species, and shortly afterwards Mr. Rothschild dedicated it to its discoverer in a paper published in the second volume of 'Novitates Zoologicae,' with the following characters:—"This new species belongs to the group of the smaller species of *Cervicapra*, and is nearest to *C. bohor*, but much the smallest of the genus. Perhaps the most striking difference to the ordinary observer is the central black stripe running from the nose to between the eyes. Head and neck generally orange-buff, as in *C. bohor*; back, sides of body, upperside of tail, and outer sides of limbs warm buffy grey, instead of being of the same colour as the neck, as in *C. bohor* and *C. redunca*. Belly, underside of tail, and inside of limbs down to the knees white. Just below the knee in front is a dark brown patch. The ears seem to be longer and narrower in proportion than those of *C. bohor*; they are sparingly covered on the outside with short hair of the colour of the neck, and inside thickly lined with long white hair. The horns are much smaller and thinner than those of *C. bohor*, and much more so, of course, than those of *C. redunca*, both of which are much more curved forward. The rings on the horns project much more and are much sharper than in my specimens of *C. bohor* and *C. redunca*, and are also much more regular. They are five in number, besides the basal ring."

"The skull is in all its proportions much smaller than that of *C. bohor*, but the palatine is, if anything, longer than in *C. bohor*.

"Height about 30 inches, hoofs on the bottom line $1\frac{1}{2}$, fore legs 20, tail about 6, ear $6\frac{1}{4}$, horns along the curve nearly 6."

After the description was made the specimen was unfortunately sent off to America before we had time to make a special examination of it. In reply to our enquiries, however, Mr. F. W. True, of the U.S. National Museum at Washington, has most kindly forwarded to us a large-sized black-and-white drawing of the head of this species, from which the accompanying reduction (fig. 43, p. 184) has been made by photography. In the absence of a coloured figure, this we trust will serve to make Chanler's Reedbuck, if rediscovered, more easily recognizable by future travellers.

This is, we fear, nearly all that we can say respecting the present Antelope,

of the claims of which to specific separation we are by no means certain. In fact, it appears to be doubtfully separable from *C. fulvorufula*, with which Mr. Rothschild did not compare it, and we should not have given it a separate heading had it not been for its very wide difference in locality. Up to the present time *C. fulvorufula* has not been found north of the Zambesi, while the district of British East Africa in which Mr. Chanler shot the type of this species lies nearly under the Equator.

Our knowledge of the proper position of this Antelope is mainly due to an accurate cast of the typical skull prepared by Messrs. Rowland Ward & Co., and generously presented by them to the National Museum.

P.S.—Since this was written Thomas has examined some examples of Chanler's Reedbuck obtained by Mr. F. J. Jackson in British East Africa, probably near the Ravine Station, where he is now resident. So far as can be made out in their present condition, these specimens are very similar to the South-African *C. fulvorufula*, without special face-markings, and therefore confirm our view that *C. chanleri* cannot be well distinguished from its South-African relative.

February, 1897.

GENUS III. PELEA.

(See p. 93.)

Type.

Pelea, Gray, P. Z. S. 1850, p. 126 P. CAPREOLUS.

Size small. Fur rather woolly. Naked muzzle large. No subauricular glandular patch. Skull much as in *Cervicapra*. No anteorbital fossa. Lacrymal fissure long and narrow. Premaxillæ not reaching the nasals. Bullæ small. Horns medium in length, slender, ringed, nearly vertical, straight or slightly curved forwards; absent in the female.

Distribution. South Africa. (One species only.)



Wolf del. J. Smit int.

The Vaal Rhebok .
PELEA CAPREOLUS .

Published by R. H. Porter.

Hanhart 1872

75. THE VAAL RHÉBOK.

PELEA CAPREOLUS (BECHST.).

[PLATE XLVI.]

- Antilope capreolus*, **Bechst.** Syst. Uebers. vierf. Thiere, i. p. 98 (1799), ii. p. 646 (1800); **Thunb.** Mém. Ac. Pétersb. iii. p. 312 (1811) (Cape Flats); **Afzel.** N. Act. Ups. vii. pp. 251 & 262 (1815); **Goldf.** Schr. Säug. v. p. 1232 (1818); **Schinz.** Cuv. Thierr. i. p. 393 (1821); **Desm.** Mamm. ii. p. 461 (1822); **Licht.** Darst. Säug. pl. viii. (♂ ♀) (1827); **Less.** Man. Mamm. p. 377 (1827); **J. B. Fisch.** Syn. Mamm. p. 467 (1829); **Smuts,** En. Mamm. Cap. p. 77 (1832); **Less.** Compl. Buff. x. p. 291 (1836); **Oken,** Allg. Naturg. vii. p. 1364 (1838); **Forst.** Descr. Anim. p. 392 (1844); **Wagn.** Schr. Säug. Suppl. iv. p. 428 (1844), v. p. 430 (1855); **Schinz,** Syn. Mamm. ii. p. 410 (1845); **id.** Mon. Antil. p. 14, pl. xiii. (1848); **Gieb.** Säug. p. 315 (1853).
- Antilope (Gazella) capreolus*, **Licht.** Mag. nat. Fr. vi. p. 174 (1814).
- Cemas capreolus*, **Oken,** Lehrb. Nat. iii. pt. 2, p. 740 (1816).
- Redunca capreolus*, **A. Sm.** S. Afr. Quart. J. ii. p. 107 (1834); **Harris,** Wild Anim. S. Afr. p. 138, pl. xxv. fig. 1 (1840); **Fitz.** SB. Wien, lix. pt. 1, p. 169 (1869).
- Cervicapra capreolus*, **Sund.** Pecora, K. Vet.-Ak. Handl. 1844, p. 193 (1846); **id.** Hornschuch's Transl., Arch. Skand. Beitr. ii. p. 145; Reprint, p. 69 (1848).
- Eleotragus capreolus*, **Gray,** Ann. Mag. N. H. (1) xviii. p. 232 (1846); **id.** List Ost. B. M. p. 57 (1847); **id.** Knowsl. Men. p. 12 (1850); **Blyth,** Cat. Mamm. Mus. As. Soc. p. 168 (1863).
- Eleotragus (Pelea) capreolus*, **Gray,** P. Z. S. 1850, p. 126; **id.** Ann. Mag. N. H. (1) viii. p. 144 (1851).
- Pelea capreolus*, **Gray,** Cat. Ung. B. M. p. 90, pl. xxxvi. fig. 2 (skull) (1852); **Gerrard,** Cat. Bones Mamm. B. M. p. 238 (1862); **Gray,** Cat. Rum. B. M. p. 29, pl. iii. fig. 5 (1872); **id.** Hand-l. Rum. B. M. p. 99 (1873); **Bryden,** Kloof and Karroo, pp. 125 & 297 (1889); **Ward,** Horn Meas. (1) p. 85 (1892), (2) p. 130 (1896); **Nicolls & Egl.** Sportsm. S. Afr. p. 33, pl. vii. fig. 24 (1892); **Lyd.** Horns and

Hoofs, p. 220 (1893); Lorenz, Ann. Mus. Wien, ix., Notizen, p. 60 (1894); Rendall, P. Z. S. 1895, p. 360 (Transvaal).

Calotragus capreolus, Temm. Esq. Zool. Guin. p. 191 (1853).

Antilope lanata, Desmoul. Dict. Class. d'H. N. i. p. 445 (1822); Laurill. Dict. Univ. d'H. N. i. p. 623 (1839).

Antilope villosa, Burch. Trav. ii. p. 302 (1824); id. List of Mamm. pres. to B. M. p. 5 (1825) (Swellendam, Nov. 19, 1814); H. Sm. Griff. An. K. iv. p. 241, v. p. 339 (1827); Less. Compl. Buff. x. p. 290 (1836); Gerv. Dict. Sci. Nat. i. p. 262 (1840); Less. N. Tabl. R. A., Mamm. p. 177 (1842).

Eleotragus villosus, Gray, List Mamm. B. M. p. 165 (1843).

VERNACULAR NAMES:—*Rhébok* or *Vaal Rhébok* of Dutch and English Colonists; *Peeli* of Bechuanas (*Burchell and others*); *Iza* of Zulus (*Rendall*).

Height at withers about 29 or 30 inches. General form comparatively slender and delicate. Fur soft and woolly, though not very thick. Colour dull pale grey all over, the head and limbs tending rather towards fawn-colour. Ears very long and narrow, their backs grey. Throat and belly similar to and scarcely paler than the back; chin, however, with a distinct blackish patch. Lower part of limbs slightly and inconspicuously darker in front. Tail reaching to about the level of the groin, rather bushy; fawn-grey above near the body, white below and at the end.

Horns slender, barely $2\frac{1}{2}$ inches in circumference at the base, strongly ringed on their lower half, smooth at the tips; rising nearly vertically, and slightly curving forwards. In length they ordinarily attain to about 8 or 9 inches, though some of $11\frac{1}{2}$ inches have been recorded.

Dimensions of an old male skull:—Basal length 7.35 inches, greatest breadth 3.95, muzzle to orbit 5.

Female. Like the male, but hornless.

Hab. S. Africa, south of the Zambesi.

Closely allied to the Reedbucks, and, in fact, hardly differing from them in general structure, except in its nearly straight horns and the want of the naked patch beneath the ears, is the Vaal Rhébok of the South-African colonists, so named by the Dutch settlers from its fancied resemblance to the Roebuck of Europe (*Capreolus caprea*), and so called by Le Vaillant, Sparrman, and the older authors. Bechstein in 1799 appears to be the first

author who gave it a scientific name, and he wisely chose for it that of "*capreolus*," following the precedent of the vernacular. In this he was followed by Thunberg, Afzelius, and other subsequent writers on the Antelopes, and the name has been mostly accepted and appended to the generic term *Pelea* bestowed upon it by Gray in 1850, taken from "Peeli," the Bechuana name of this Antelope.

In 1822, however, Desmoulins, in his article on Antelopes in the 'Dictionnaire Classique d'Histoire Naturelle,' redescribed the species as *Antilope lanata*, from specimens transmitted to Paris from the Cape by Delalande; and two years subsequently Burchell, who had met with this Antelope during his travels in Bechuanaland, gave it the new name *Antilope villosa*; but neither of these appellations has attained much circulation.

The earliest recognizable figures of the Vaal Rhébok were published about 1829, when Lichtenstein gave representations of both sexes in his 'Darstellung der Thiere' from specimens in the Berlin Museum.

This species appears to have qualities that enable it to resist the advancing tide of civilization better than some of its kindred, and is consequently still found scattered over wide districts of the Cape. Mr. W. L. Sclater, who has kindly sent us an account of the present distribution of the Antelopes still existing within the limits of the Colony, gives us the following list of actual localities of the present species:—In the west, Namaqualand, Clanwilliam, Malmesbury, Caledon, Bredarsdorp, Zwellendam, Riversdale, Ceres, Sutherland, Prince Albert, Beaufort West, Carnarvon, Kenhardt, and Pruska (scarce); in the middle districts, Mossel Bay, Middelburg, Colesburg, and Albert; in the east of the Colony, Bathurst, Albany, Tembuland, Barkly East, Griqualand East, and Queenstown; and in the north, Great Namaqualand, Kimberley, Barkly West, and Herbert.

Besides these districts of the Cape Colony we shall presently see that the Vaal Rhébok is also found in the Orange Free State, the Transvaal, Natal, Mashonaland, and Matabeleland, and in the adjoining districts up to the Zambesi.

In the days of Harris (1836-37) we learn from his 'Portraits' that the "Rhébok," as he calls it, was extremely common throughout the Cape Colony, even in the more thickly inhabited cantons. "Never entering the forest," he tells us, "but residing chiefly among rocky glens and mountain-passes, the Rhébok inhabits the vicinage of little stagnant pools that have

been left by the winter torrents, where small families, comprising one old male and five or six females with their fawns, may frequently be seen grazing quietly on the bare hill-sides or gambolling amongst the dwarf trees and underwood. To guard against surprise a vidette is invariably on the alert; and should a human figure or other suspicious object be descried nearer than is judged to be safe, the wary sentinel forthwith extends her slender neck, and gives warning to her companions by a sharp sneeze. Away they all bound, lightly as the wind, tossing their graceful heads, whilst their dainty feet scarcely seem to touch the earth; and never slackening their pace until they have gained the summit of some distant eminence, they halt as if by word of command, and suddenly facing half round, reconnoitre the enemy. Exceedingly shy and possessed of a keen scent and a hawk-vision, it is difficult enough to approach within rifle-range; but the little herd, when thus in motion, usually winding round the base of a hill instead of taking directly up the acclivity, an opportunity is often presented to the pursuer to gallop across the path they have selected, and thus obtain an easy snap-shot."

Mr. H. A. Bryden, in his 'Kloof and Karroo,' devotes a whole chapter to the pleasures of "Vaal Rhébok-shooting," which, for some reason or other, he says, has been unaccountably neglected by hunters and naturalists, in "their rush to follow the larger and nobler game of this game-abounding country." The most peculiar feature of this Antelope, he tells us, "lies in its coat, which differs essentially from that of every other South-African species, consisting of a thick woolly fur, approaching very closely to the texture of that of the rabbit, but softer, finer, and longer." The venison, he adds, "although inferior to that of the Spring-bok and some of the larger Antelopes, is by no means inestimable, but has the fault, common to much South-African game, of being somewhat dry."

Our most recent authorities on the game-animals of South Africa, Messrs. Nicolls and Eglinton, speak of this species as fairly well distributed, even in these days, throughout the Cape Colony, the Orange Free State, the Transvaal, the Bechuanaland Protectorate, and portions of Natal, Zululand, and Matabeleland, but nowhere, at the present time, to be met with in large numbers.

"Like the Red Rhéback and the Klipspringer, it is only met with in very broken country, frequenting the highest points on the mountains and kopjies, never descending to the valleys or plains except at night when in search of water. It is generally found in flocks of six or seven up to a dozen, and is

most wary and difficult of approach, one old ram usually standing on guard while the remainder feed. On the least sign of danger, the sentry immediately decamps among the rocky boulders, being instantly followed by the whole herd, springing from rock to rock with great activity. Driving is the best plan to adopt when hunting this species, the guns taking up a position in some narrow valley through which the Rhé buck are bound to pass on being driven by natives and dogs from one range of hills to another. It is worthy of remark that at certain portions of the year the entire body of this animal

Fig. 44.



Head of Vaal Rhé buck, ♂.

is often found to be burrowed with a large sort of warble, and consequently the flesh, at such times, is unfit for food, in addition to which it decomposes with great rapidity."

In the Transvaal it appears, from what Dr. Percy Rendall tells us (see P. Z. S. 1895, p. 360), under present circumstances, to be growing rather

scarce in the mining districts that he visited. It is still found, however, on the highest ridges of the Makongwe Range near Barberton. In the less frequented north-eastern portion of the Transvaal, north of the Crocodile River, Mr. Kirby found the Vaal Rhébok "throughout the mountain-ranges and near the stony krantzies bordering the terrace-lands." They were also occasionally seen amongst the lower hills, and were observed to run in small troops of from ten to twelve in number.

The Rhébok seems to be impatient of captivity and is very seldom brought to Europe alive. The register of the Zoological Society of London contains the record of only four examples as received, two of which were transmitted by Sir George Grey from the Cape in 1861. These were both females; but a male was presented by Mr. E. R. Wodehouse in 1863, and a female was obtained by purchase in 1864. During his many visits to the continental menageries, Selater does not recollect to have observed a single individual of this Antelope. Besides a stuffed pair of adults of this species in the Gallery of the British Museum, from the male of which our drawing of the head (fig. 44, p. 193) has been taken, there are a skin and several skulls from the Burchell and other collections. But fresh specimens of this Antelope would be desirable acquisitions.

Our coloured Plate (no. XLVI.) represents both sexes of this beautiful Antelope, giving special prominence to the long ears, one of its most remarkable features. It has been put upon the stone by Mr. Smit from an original sketch by Mr. Wolf, which Sir Douglas Brooke has kindly allowed us to examine. But we regret to say that we have no information as to the exact individuals from which these figures were taken.

February, 1897.

