



Wolf del et lith.

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June 11, 1850.

W. Spence, Esq., F.R.S., in the Chair.

The following papers were read:—

1. SYNOPSIS OF THE SPECIES OF ANTELOPES AND STREPSICERES, WITH DESCRIPTIONS OF SOME NEW SPECIES. BY J. E. GRAY, ESQ., F.R.S., P.B.S. ETC.

(Mammalia, Pl. XX.)

The genera in this Synopsis are arranged after the plan, first suggested in a paper on the genera of the Hollow-horned Ruminants (*Bovidæ*) in the 'Annals and Mag. of Nat. Hist.' xviii. 227.

## ANTELOPES.

The Antelopes contain a large number of species separated into several genera, which may be arranged in the following sections:—

I. The ANTELOPES OF THE FIELDS have a tapering nose, with the nostrils bald within.

1. The *True Antelopes* are light-bodied and limbed, and small-hoofed, with a short or moderate tail covered with elongated hair to the base; horns lyrate or conical.

2. The *Cervine Antelopes* are large-sized, rather heavy-bodied and large-hoofed, and have an elongated tail with short hair at the base and tufted at the end; horns lyrate or conical. (See p. 128.)

3. The *Caprine Antelopes* are heavy-bodied and limbed, and large-hoofed, with a very short, depressed tail covered with hair to the base; horns conical. (See p. 135.)

II. The ANTELOPES OF THE SANDY DESERTS have a broad nose, and the nostrils lined with bristles within.

4. The *Equine Antelopes* have the nose very broad, soft, spongy, and bristly. (See p. 138.)

5. The *Bovine Antelopes* have the nose moderately broad, with a black, moist muffle. (See p. 139.)

I. The ANTELOPES OF THE FIELDS. Nose tapering, the nostrils bald within, close together in front and diverging behind.

1. The TRUE ANTELOPES. Body moderate-sized, elegant; legs slender; tail moderately elongate, hairy; horns placed over the eyebrows.



- A. *Horns lyrate (or rarely cylindrical, subspiral), strongly ringed at the base; nose ovine, without any naked muffle; deep inguinal pouches; and tear-bag generally well-developed.*

### 1. SAIGA.

Horns short, strong, annulated, lyrate, white; nose very high, compressed, rounded; nostrils very close together; tear-bag distinct; fur soft.

#### 1. SAIGA TATARICA. The COLUS or SAIGA.

Pale yellowish, crown and back greyish washed; belly and anal region beneath the tail white; young, crown greyer.

*Capra Tatarica*, Linn. S. N. 97.—*Antilope Saiga*, Pallas.—*Ibex imberbis*, Gmelin.—*Antilope Colus*, H. Smith.—*Colus Strabonis*, Gesner.—*Colus Tartarica*, Wagner.—*Cervicapra*, sp. Blainv.—*Saiga tatarica*, Gray, Knowsley Menag. 3.

Inhabits Siberia. Cab. Brit. Mus.

### 2. KEMAS.

Horns elongated, rather lyrate; nose with a dilated pouch on each side; tear-bag distinct? hair close, erect, spreading; nose-hole of skull very large; females hornless.

#### 1. KEMAS HODGSONII. The CHIRU.

Pale brown; chest, belly and inside of the limbs white; front of face and front of legs blackish.

*Antilope Hodgsonii*, Abel.—*A. Kemas*, H. Smith (not horns, t. 181. f. 6).—*A. Chiru*, Lesson.—*Kemas Hodgsonii*, Gray, Knowsley Menag. 3.

Inhabits Thibet. Cab. Brit. Mus.

### 3. GAZELLA, H. Smith.

Horns strong, lyrate, black; face tapering; nose simple; tear-bag distinct; fur short, close-pressed. Females with smaller horns; teats four.

\* *Knees with tufts; back and rump brown, vent white.*

† *Lower part of side with a dark oblique streak; feet with a tuft of black hair beneath.*

#### 1. GAZELLA DORCAS. The GAZELLE.

Fur rather elongate and harsh, grey brown; outside of fore legs, broad oblique streak along the side, edge of anal disc, front of face and face-streak, dark brown; face-streak, throat, chest, belly, inside of thigh and anal disc, white; tuft at under side of feet and end of tail black; knee-tufts blackish; young, back and side-streak rather paler.

*Capra Dorcas*, Linn.—*Antilope Dorcas*, Pallas; Licht. 3. t. 5.—*A. Gazella*, Pallas.—*Gazella Kevella*, H. Smith, ♀.—*G. Corinna*, H. Smith, ♀.—*Gazelle*, Buffon, H. N. xii. t. 22–25. ♂.—*Kevel*, Buffon, H. N. xii. t. 26. ♂. not F. Cuvier.—*Corinne*, Buffon, H. N. xii. t. 27. ♀. t. 30 (not F. Cuvier); Cuvier, Menag. Mus. t. —*Kevel gris*, F. Cuvier, Mam. Lithog. t. 3.—*Antilope Cora*, H. Smith.—



*A. Arabica*, Hemprich and Ehrenb. Symb. Phys. t. 5 ; Licht. Saugth. t. 6.—*A. Cuvieri*, Ogilby, Proc. Zool. Soc. 1840, 35 ; Frazer, Zool. Typica, t.

*Var.* Nose with a dark spot or streak.

*Var.* Larger, legs thicker.

*Gazella Dorcas*, var. Gray, Knowsley Menag. t. 3.

Inhabits N. Africa ; shore of Red Sea ; Mogador (*Willshire*).

The Earl of Derby has specimens which he calls *Gazella vera*, figured *Knowsley Menag.* t. 3 ; they are rather larger, greyer, and the legs are much thicker and heavier than the specimens from the shore of the Red Sea. The fur is similar, but not quite so long on the under side of the neck. The *Kevel gris* (F. Cuvier, Mam. Lith.) well represents this variety.

The *A. Cuvieri* of Ogilby, from Morocco, is a much larger animal than the common *G. Dorcas*, but agrees with it in other characters, except, it is said, in having longer ears.

M. F. Cuvier (Mam. Lithog. vii. t. 8. ♀.) has figured and described an Antelope from Sennaar under the name *A. leptoceros*, which he says is very like *A. Dorcas*, but has larger horns, those of the males being twice and of the females half as long again as the head. The horns vary greatly in length in our specimens.

†† *Upper part of sides with a pale streak.*

## 2. GAZELLA ISABELLA. The ISABELLA GAZELLE.

Fur short, very soft ; pale yellowish brown, with a broad, rather paler oblique streak on the upper part of the side ; knee-tufts, front of face and lower face-streak, darker yellow brown ; upper face-streak, chest, back edge of tarsus, under side of feet, inside of limbs, belly and vent, white ; tail black. Female, horns very slender, longer than the head. Young, paler, the lower part of the sides rather darker.

*Gazella Isabella*, Gray, Ann. and Mag. Nat. Hist. 1846.—*Antelope Iridis* (*Die Iris Antelope*), Licht.—*A. Dorcas*, Licht. Darstell. t. 5.—*A. Dorcas*, var. *a.* Sundevall.

Inhabits N. Africa ; Egypt (*J. Burton, Esq.*), Kordofan (*Sundev.*).

This species is easily known from the foregoing by the softness and fineness of the fur, and the lower side-streak being of the same colour as the back, and from it and the following by having no dark edge to the anal disc.

## 3. GAZELLA SUBGUTTUROSA. The JAIRON.

Pale brown ; upper part of sides with a broad, rather paler streak ; crown and knee-tufts greyer ; face-streak indistinct ; nose, lower part of sides, belly, hinder side of fore and front side of hinder limbs and anal disc white ; streak on haunches dark brown ; end of tail blackish.

*Antelope subgutturosa*, Guldenst. ; Pallas ; H. Smith, Griff. A. K. t. 183. f. 5, horns.—*Capra Ahu*, Kœmp.—*A. Dorcas*, var. *persica*, Rüppell.—*Gazella subgutturosa*, Gray, K. Men. 4.

Inhabits Tartary, Armenia and North Persia. Cab. Brit. Mus.

Larger than the Chikara.



\*\*\* *Knees with tufts; rump mark and throat-spots white: no dark side-streak; tail slender, compressed, only hairy above (Dama, Bennett).*

#### 4. GAZELLA SOEMMERINGII. The ABYSSINIAN MOHR.

Pale brown; nose, forehead and lower edge of face-streak and end of tail blackish; chest and belly, angular mark on rump above the tail, face-streak and spot on the throat white; limbs pale. Female, forehead paler in the centre.

*Antilope Soemmeringii*, Cretzschm. in Rüppell, Zool. Atlas, t. 19 ♂.

—*Gazella Soemmeringii*, Gray, K. M. 5.

Inhabits Lower Abyssinia; Sennaar. Brit. Mus.

#### 5. GAZELLA MOHR. The MOHR.

Bay; chin, spot on throat, chest, belly, edge and inside of limbs and angular spot on rump above the tail white; spot on side of face and end of tail black.

*Antilope Mohr*, Bennett, Trans. Zool. Soc. i. t. 8; Knight, M. A. N. f. —*A. Dama*, var. *occidentalis*, Sundevall.—*Gazella Mohr*, Gray, K. M. 5.

Inhabits Morocco. Mus. Zool. Soc. Portendic. There called *Seni-ci* (Mr. Whitfield). Mus. Brit.

The specimen in the Frankfort Museum, which was received from the Zoological Society, is one-third smaller than the *Andra*. It is brown, rump mark, lower part of the sides, belly, inside and edge of legs white, face iron-grey with longer hair at the base of the horns; horns large, thick, the face-streak indistinct from the pale colour of the head.

There is a fine specimen of this species living at Knowsley, and a female which died on the passage in the British Museum.

#### 6. GAZELLA DAMA. The NANGEUR.

Bay; chin, spot on throat, belly, lower part of sides and hinder part of the back, inside of the limbs white; no spot on side of the face.

*Antilope Dama*, Pallas.—*Gazella Dama*, Gray, K. M. 5.—*A. rubra*, Afzelius.—*Nangeur*, Buffon, H. N. xii. t. 32. f. 3. t. 34.

Inhabits W. Africa; Senegal.

Not seen since Buffon's time; may be a bad figure of the former.

#### 7. GAZELLA RUFICOLLIS. The ANDRA.

Whitish; neck and front part of the middle of the back reddish; no face-streak.

*Antilope ruficollis*, H. Smith, G. A. K. v. 205.—*A. Andra*, Bennett.—*A. Dama*, Licht. Saugth. t. 3, 4; Rüppell, Zool. Atlas, t. 14, 16; Ehrenberg, Symb. Phys. t. 6.—*A. Dama*, var. *orientalis*, Sundevall.—*Gazella ruficollis*, Gray, K. M. 5.

*Var.* Young? with an indistinct narrow brown streak across the outside of the thighs, and the forehead iron-grey, with longer hair at the base of the horns; horns small. Mus. Frankfort.



Inhabits North Africa; Kordofan. Brit. Mus. ♀.

These species differ in size as well as markings. The *Mohr* and *Andra* differ from *G. Soemmeringii* in being of much larger size, and in wanting the black face and streaks. Bennett's *Mohr* has only an angular white spot on the rump, like *G. Soemmeringii*; Buffon's *Nangeur* is smaller, and has more white on the rump, thighs and sides; and the *Andra*, which agrees with the figures cited, is almost all white, with a reddish neck and withers.

\*\*\*\* *Knees without tufts (but with rather longer hair, forming a linear keel in front); back and rump brown; sides with dark streak.*

#### 8. GAZELLA RUFIFRONS. The KORIN.

Bay brown; sides above paler, with broad dark streak below; tail black; chest, belly, inside of legs, back edge of tarsus, and under side of feet and anal disc white; face bright bay, side-streak broad white.

*Gazella rufifrons*, Gray, Ann. and Mag. Nat. Hist.—*Kevel*, male, F. Cuvier, Mam. Lithog. t. 3.—*Corine*, F. Cuvier, Mam. Lithog. t. . young ♀.—*A. lævipes*, Sundevall.—*Gazella rufifrons*, Gray, K. M. 5. t. 4.

*Var.* Nose blackish above (adult ♀).

Young; pale yellowish, side-streak brownish.

Inhabits W. Africa; Senegal. Mus. Paris. Gambia (*Mr. Whitfield*), called *Seni*. Brit. Mus. Sennaar (*Sundevall*).

Buffon mentions a *Corine* as coming from Senegal, but he says it is smaller than the *Kevel*, and Daubenton says that it has knee-tufts, so that it cannot be this species. Indeed the *Gazelle*, *Corine* and *Kevel* of Buffon are clearly all *A. Dorcas* of this memoir.

The *Kevel* figured by M. F. Cuvier well represents this species. He says it was sent from Senegal, and probably it has not knee-tufts, for they are not indicated in the figure or mentioned in the text; for, like other descriptions of this author, though it occupies more than two pages, all the peculiarities of the species are left out. The *Corine* of the same author, also from Senegal, well represents the young. M. F. Cuvier says the *Kevel* and *Corine* and *A. Dorcas* form one species, but afterwards, under *Kevel gris*, he thinks they may be two.

#### 4. PROCAPRA, Hodgson.

Horns strong, elongate, lyrate, black; face tapering, nose simple; tear-bag none; knee-tufts none; tail very short: female hornless; teats two. Asia; not gregarious.

##### 1. PROCAPRA GUTTUROSA. The DSEREN.

Pale yellowish; hair long, soft, of anal region short, white; tail black.

*Antelope gutturosa*, Pallas, Spic. xii. 45. t. 2; H. Smith.—*Gazella gutturosa*, Gray, Knows. Menag. 3.

Inhabits Mongolia, Siberia. Cab. Brit. Mus., male and female. Thibet. Mus. Ind. Comp.



2. *PROCAPRA PICTICAUDA*. The RAGOA or GOA.

Hair sordid, brown with pale rufous tips; under side, inside of ears, limbs and anal disc, reddish white; tail black.

*Procapra picticauda*, Hodgson, J.A.S. Bengal, 1846, 173. 334. t.

Inhabits Thibet; in the plains. Brit. Mus., skulls. Perhaps same as former in summer fur.

5. *TRAGOPS*, Hodgson.

Horns lyrate, short, black; face tapering, nose simple; "tear-bag none;" teats two: females with small horns. India; not gregarious.

1. *TRAGOPS BENNETTII*. The CHIKARA.

Bay brown; sides uniformly coloured; knee-tufts, end of nose and tail black; streak on haunches blackish; face-streak, chest, belly and inside of limbs white.

*Antilope Bennettii*, Sykes.—*A. Christii*, Gray.—*A. Bharatensis*, Hodgson.—*A. Hazenna*, I. Geoff., Voy. Jacq. Mam. t. 6, bad?—*A. Dorcas*, var. E., Sundevall.—*Tragops Bennettii*, Hodgson, 1847.

Inhabits India. Cab. Brit. Mus.

The feet are generally blackish, but sometimes brown like the back.

6. *ANTIDORCAS*, Sundevall.

Horns lyrate, short, black; face tapering, nose simple; tear-bag not remarkably distinct; back with an expansile white streak or fold; hair close-pressed; knees not tufted: females with small horns.

1. *ANTIDORCAS EUCHORE*. The SPRINGBOC or TSEBE.

Pale brown; face, throat, chest, belly, broad expansile streak on back to base of tail, edge and inner side of limbs white; face-streak and middle part of forehead pale brown, side-streak oblique, dark brown: young paler; side-streak paler, back-streak distinct.

*Antilope Euchore*, Forster, Licht. t. 7; H. Smith; Harris, W.A.A. t. 3.—*A. saltatrix*, Link.—*A. marsupialis*, Zimm.—*A. Pygarga*, Blumenb.—*A. dorsata* and *A. saliens*, Lacep.—*A. Ibex*, Afzelius, 1810.—*Gazella Euchore*, Gray, Know. Men. 6.

Inhabits S. Africa. Brit. Mus.

7. *ÆPYCEROS*, Sundev. MSS.; *Antilope*, Gray.

Horns elongate, wide-spreading, lyrate, black; face tapering, nose simple; knees not tufted, feet with tuft of (black) hair near pastern; teats two; no trace of suborbital sinus (*Harris*).

1. *ÆPYCEROS MELAMPUS*. The PALLAH or ROOYE BOC.

Bay, sides paler beneath; belly, anal disc and lower side of tail white; crown, anal streak and tip of tail blackish; tuft above feet and back of feet black.

*Antilope Melampus*, Licht.; H. Smith, t. 181. f. 7; Harris, W. A. Africa, t. 15.

Inhabits S. Africa. Brit. Mus.



8. ANTILOPE, H. Smith; *Cervicapra*, Gray.

Horns elongate, subspiral, erect, diverging; face tapering, nose simple; tear-bag large. India; gregarious.

## 1. ANTILOPE BEZOARTICA. The ANTELOPE.

Grey brown; lips, orbits, chest, lower part of sides and belly, edge and inside of limbs white; nose, front of shoulder and outside of thigh, end of tail and front of feet blackish; neck redder.

*Capra bezoartica*, Aldrov.—*C. Cervicapra*, Linn., ? H. Smith.—*A. Cervicapra*, Pallas, Gray, Illust. Ind. Zool. t. .—*Antelope*, F. Cuv. Mam. Lith. t. . ♀.—*Cervicapra bezoartica*, Gray, Knowsley Men. 6.

*Var.* and young. A narrow pale streak on the upper part of each side.

*Antelope bilineata*, Temm., Gray, Illust. Ind. Zool. t. .

Inhabits India. Brit. Mus.

B. *Horns small, slender, straight, conical, tapering, more or less diverging and often bent forward at the tip; the muffle is generally large and moist.*

† *Tear-bag large; muffle generally large.*

## 9. TETRACERUS, Leach.

Muffle large; tear-bag large, longitudinal; horns, two pair very short, conical, straight; knee-tufts none: female hornless.

## 1. TETRACERUS QUADRICORNIS. The CHOUKA.

Front pair of horns conical, distinct.

*T. quadricornis*, H. Smith, G. A. K. t. 181. f. 3. t. 186.—*Antelope quadricornis*, Blainv.—*A. striaticornis*, Leach.—*A. tetracornis*, Hodgson.—*A. Chickara*, Hardw.; H. Smith.—*T. Chicara*, F. Cuv. Mam. t. . ♂.—*Cervus albipes*, F. Cuv. Mam. Lith. t. . female.

Inhabits India, Himalaya. Brit. Mus. Thibet. Mus. Ind. Comp.

M. De Blainville in describing this animal has read *Moorshadabad*, the habitat, for *Hoornadabad*, and thought it the name of the animal.

## 2. TETRACERUS SUBQUADRICORNUTUS. The JUNGLIBUKRA.

Front pair of horns rudimentary, tubercular; hinder horns conical, subcylindrical; pale brown; side rather paler; chest, belly, inside and front of legs whitish; feet paler, varied.

*Var.* Female, front of legs blackish.

*Antelope subquadricornutus*, Elliot, Madras Journ. 35. t. 4. f. 2.—*Brown Antelope*, Sykes.

Inhabits Madras. Brit. Mus. Larger than the former.

Mr. Hodgson, in MacClelland's Calcutta Journ. Nat. Hist. 1847, notices and figures five species of this genus: 1. *T. Iodes* (rusty-red), t. 4. f. 3, and 2. *T. paccerois* (full-horned), t. 4. f. 1, 2, from skull.



10. CALOTRAGUS, (part) Sundevall; *Oreotragus*, (part) Gray; *Redunca*, (part) H. Smith; *Tragulus*, H. Smith; *Cervicapra*, sp. Blainv.

Muffle large; tear-bag arched, transverse; horns subulate, elongate, erect; hoofs triangular, flattish beneath, acute in front; crown smooth; tail very short; groin and orbit nakedish: females hornless; teats four; the knees not tufted; inguinal pore none; ear elongate; false hoof small or none.

\* *False hoofs none.*

1. CALOTRAGUS TRAGULUS. The STEINBOC.

Fulvous, ashy; hair uniform; small spot on nose, and two diverging streaks on crown to nape blacker; upper part of throat, chest and abdomen white; ears three-fourths the length of the head; false hoofs none.

*Antilope Tragulus*, Forster, Licht. t. 14.—*A. rupestris*, H. Smith; Harris, W. A. A. t. 25. f. 2.—*A. campestris*, Thunb. 1811; Afzelius, 1815.—*A. pallida*, H. Smith.—*A. Pediotragus*, Afzelius.—*A. fulvorubescens*, Desmoul.—*A. rufescens*, H. Smith, G. A. K. t. 188.—*Calotragus tragulus*, Gray, Knowsley Menag. 7.

Var. Without the black crown-streaks, throat whiter.

Inhabits S. Africa. Brit. Mus.

This species varies much in colour, perhaps according to the season: sometimes the hairs are whitish at the tip, giving the fur a glaceous appearance; the black streaks are as distinct in the young as in the adult.

\*\* *False hoofs small.*

2. CALOTRAGUS MELANOTIS. The GRYS BOC.

Red bay, with intermixed white hairs, crown with two dark streaks; ears two-thirds the length of head; false hoofs small.

*Antilope Melanotis*, Thunb. 1811; Afzelius; Licht. S. t. 12; Harris, W. A. A. t. 26.—*A. grisea*, Cuvier, D. S. N. ii. 244, 1816; H. Smith.—*A. rubro-albescens*, Desmoul.—*Calotragus melanotis*, Gray, Knowsley Menag. 7.

Var. *pallida*. Pale ashy white, hairs some white, others lead-coloured with grey tips. Brit. Mus.

Inhabits S. Africa. Brit. Mus.

11. SCOPOPHORUS, Gray; *Calotragus*, part Sundevall.

Muffle small, bald; tear-bag transverse; horns subulate, elongate, acute, slightly recurved at the tip; knees largely tufted; inguinal pores distinct and bearded; ears moderate, with a naked spot on the outside of their base; hoofs triangular, false hoof distinct.

1. SCOPOPHORUS OUREBI. The OUREBI.

Temple-spot small, indistinct; fur red-brown; cheeks paler; crown darker red brown; orbits, chest, belly, and middle of upper



part of inner side of legs white; end of tail, arched line before the eye and spot between the ears black.

*Var.* End of nose blackish.

*Antilope Scoparius*, Schreb. Licht. S. t. 13.—*A. Ourebi*, Shaw; Lesson.—*Ourebi*, Buffon, not F. Cuvier.—*A. melanura*, Bechst.

Inhabits S. Africa, Cape of Good Hope. Brit. Mus.

## 2. SCOPOPHORUS MONTANUS. The GIBARI.

Temple-spot large, deep (more than half an inch over), naked; fur greyish brown; cheeks paler; crown red brown; orbits, chest, belly, under side of tail and middle of the inner side of the upper parts of the legs white; end of tail and arched line before the eye black.

*Antilope montanus*, Rüppell, Zool. t. —*Scopophorus montanus*, Gray, Knowsley Menag. t. 5.

Inhabits W. and E. Africa; Abyssinia (*Rüppell*); Gambia. Called Gebari, or Mahomet's Antelope (*Earl of Derby*). Brit. Mus.

Very like the former, but grey brown, and the temporal spot much larger, deeper, more distinct and bald, both when alive and in the skin, so that it does not depend on the stuffing.

## 12. OREOTRAGUS, Gray, Sundevall; *Tragulus*, H. Smith, not Pallas.

Muffle large; tear-bag arched, transverse; horns subulate, elongate; hoofs squareish, high, compressed, much-contracted, concave beneath; false hoofs large, blunt; crown smooth; tail very short; hair thick, quill-like, spread out: female hornless; teats two.

### 1. OREOTRAGUS SALTATRIX. The KIANSI or KLIPPSPRINGER.

Dark brown, yellow grised; hair grey, brown at the end, with a short yellow tip; beneath whitish; edge of ears and feet above the hoofs black.

*Antilope Oreotragus*, Forster; H. Smith; Licht. Saugth. t. 15.—*A. saltatrix*, Bodd.; Harris, W. A. A. t. 24.—*Oreotragus saltatrix*, Sundev.; Gray, Knowsley Men. 8.

Inhabits S. Africa; Abyssinia (*Rüppell*). Brit. Mus.

Varies in brightness and depth of colour according to the season.

## 13. NESOTRAGUS, Von Duben, Sundev. MSS.

"Muffle large, bald; lachrymal sinus deep, large; face and forehead not crested; ears large; horns in males large; false hoofs none; tail very short.

Very like *Neotragus* in form and character.

### 1. NESOTRAGUS MOSCHATUS. The NESOTRAGUS.

Reddish grey; belly white; feet pale red; hair of back brown, with a pale subterminal band and black tip.

*Nesotragus moschatus*, Von Duben; Sundev. Vet. Ac. Oefversigt, 1846, 221; Pecora, 134; Gray, Knowsley Menag. 8.

Inhabits Zanzibar, east coast of Africa. Male and female in the Stockholm Museum."



14. NEOTRAGUS, H. Smith; *Madoqua*, Ogilby.

Muffle none; nose ovine; nostrils close together; false hoofs very small; tear-bag roundish; tail very short; crown crested.

## 1. NEOTRAGUS SALTIANA. The MADOQUA.

*Antilope Saltiana*, Blainv.—*A. Hemprichianus*, Ehrenb. S. P. t. 7; Licht. Saugth. t. 16.—*Neotragus madoka*, H. Smith.—*A. Grinnia*, Rüppell.—*A. Hemprichii*, Rüppell, Abyss. 25.—*N. Saltiana*, Gray, Knowsley Menag. 8.—*N. Hemprichianus*, Sundev.

Inhabits Abyssinia. Brit. Mus.

†† *A glandular line on the side of the face, in the place of the tear-bag; and the muffle large and bald.*

15. CEPHALOPHUS, H. Smith; *Sylvicapra*, Ogilby, Sundev.

Muffle large; tear-bag none, but a naked, glandular line, formed of two series of pores, on the side of the cheek; crown crested, ending in a tuft between the horns.

\* "*Knees and hind legs tufted; ears and horns elongate; tear-bag small, under the eye, and a narrow naked streak on cheek.*"

## 1. CEPHALOPHUS? QUADRISCOPA. The FOUR-TUFTED ANTELOPE.

"Buff, paler on the sides; tail, knee-tufts, front of nose, narrow inferior lateral and anal streak and streaks across legs blackish; lips, breast, belly, inside of limbs, vent and houghs white."

*Antilope quadriscopa*, H. Smith, G. A. K. iv. 261. t. 188.—*Cephalophus? quadriscopa*, Gray, Knowsley Menag. 8.

"Inhabits Senegal."

This species is only known from Colonel H. Smith's description and figure.

\*\* *Knees not tufted; ears elongate acute; horns slender, elongated.*

## 2. CEPHALOPHUS GRIMMIA. The IMPOON or DUYKER or DUYKER BOG.

Yellowish brown, greyish in winter; hair yellowish, with blackish tip; forehead yellowish bay; inside of ears, chin, throat, abdomen and under side of tail white; feet, streak on the nose, up the legs, and upper part of tail black; ears elongate, nearly as long as head, acute; horns black, elongate, slender, base rugose and subangular in front.

*Capra Grinnia*, Linn. S. N. (ed. 10) 70.—*Moschus Grinnia*, Linn. S. N. (ed. 12).—*Antilope mergens*, Blainv. Bull. Soc. Phil. 1817; H. Smith, G. A. K. v. 264; Licht. Saugth. t. 11; Harris, W. A. A. t. 15.—*A. nictitans*, Thunb. Mem. Petersb. 1811, iii. 312.—*A. Burchellii*, H. Smith, G. A. K. v. 262. adult in summer?—*A. Ptoox*, H. Smith, G. A. K. v. 265? jun.?—*A. Platous*, H. Smith, G. A. K. v. 266.—*Ceph. Grinnia*, Gray, Knowsley Menag. t. 1. f. 1, t. 2. f. 1, 2.

Inhabits S. Africa. Brit. Mus.



This species varies greatly in the intensity of the colours and in the extent of the black on the feet and nose. In one young specimen in the British Museum the black on the nose is quite deficient; though it has the bright colouring of the breeding-season, and is bright bay on the crown.

The specimen in the Museum of the London Missionary Society (No. 8 Blomfield Street, Moorfields, formerly in Austin Friars), Case 5, described by Colonel H. Smith under the name of *A. Platous*, is the size and has the horns and ears of an adult *C. Grimmia*, but differs in being paler, and having no dark colour on the nose or feet; but it is evidently much bleached. It has certainly no relation to the *C. sylvicultrix*, with which Colonel Smith was afterwards inclined to place it as a variety (Griff. A. K. Syn. v. 344).

There are three species which have been called *Antilope Grimmia*:—

1. The *Capra sylvestris africana* of N. Grimm, Misc. Cur. No-rimb. 1705, 131. t. 13, the authority for *Capra Grimmii*, Ray, Syn. 80, and Linn. S. N. (ed. 10) 70. *Moschus Grimmia*, Linn. S. N. ed. 12, from the Cape, of a dull grey colour. Probably the Duyker.

2. *Le Grimme* of Buffon, H. N. xii. 307. 329. t. 41. f. 2, 3, from a head sent from Senegal by Adanson; the *Antilope Grimmia* of Desmarest, F. Cuvier, and H. Smith, &c.; the *Cephalophus rufilatus*.

3. The *A. Grimmia* of Pallas, with large ears and a black streak to the horns, like *C. Campbelliæ*, but is from Guinea. I know of no species common to the W. and S. coast of Africa, so that it is probably yet to be distinguished.

The "*Fitomba*" or "*Philantomba*" appears to be the generic name of all the W. African *Cephalophi* or Bush Antelopes.

### 3. CEPHALOPHUS CAMPBELLÆ. The BLACK-FACED PHILANTOMBA.

Grey and black grised, beneath white; cheeks, neck and chest yellowish; forehead yellow, with a black streak on the nose widening on the forehead and ending in a tuft behind the horns; feet and front of fore-legs reddish black; fur soft; hair grey, with black ring and tip; ears elongate acute.

*Antilope Grimmia*, Pallas, Spic. Zool. xii. 18. t. 1?—*C. Burchellii*, var. (*C. Campbelliæ*), Gray, Cat. B. M. 162.—*C. Campbelliæ*, Gray, Ann. and Mag. Nat. Hist. 1846, 164; Knowsley Menag. 9. t. 2. f. 3.

Inhabits S. Africa. Brit. Mus.

This species is at once known from the Duyker by being much darker and distinctly grised or dotted, and the under side being much whiter.

We have an adult female of this species sent us as *A. mergens*, var. *Burchellii*, by M. Sundevall (the other specimen of the same name being a true Duyker), and a young specimen which has been in the British Museum for several years, sent from Africa, under the generic name of *Philantomba*, by Mrs. Campbell.

The *A. Grimmia* of Pallas, Spic. Zool. i. 18. t. 3, which he describes as grey grised, becoming brownish ash on the buttocks; throat, chest and beneath the body white; head and neck yellowish



grey; a black streak between the horns, forming a fascia on the forehead and broader on the nose; fur softer than the Deer, but rough, of lower part of the neck rougher and more lax; feet and line on fore-legs blackish; tail black above; ears rather acute: inhabits Guinea; agrees in most respects with this species, but most probably is yet to be procured from W. Africa.

\*\*\* *Knees not tufted; ears moderate, acute; horns short, conical, thick.*

4. CEPHALOPHUS MADOQUA. The ABYSSINIAN BUSH BUCK.

Yellowish brown, slightly punctulated with black; neck yellowish; limbs blacker; face-streak and feet black; hair rather rigid, close-pressed, reddish grey at the base, end polished yellow brown, with dark tips; forehead reddish.

*Antelope Madoqua*, Rüpp. Abyss. t. 7. f. 2; Sundev.—*Madoqua*, Bruce's Travels, vii. 360. t. 56.—*C. Madoqua*, Gray, Knows. Men. 9. Inhabits Abyssinia. Mus. Frankfort.

This species is very distinct from *C. coronatus*, being darker, and the fur more rigid and close-pressed.

5. CEPHALOPHUS CORONATUS. The RED-CROWNED BUSH BUCK.

Pale yellowish brown; middle of back and front of fore-legs varied with a few scattered black hairs; crown bright bay; crest blackish brown, bay in front; feet and streak up the nose blackish; inside of ears, chin, throat, chest, belly and inner side of legs whitish; horns short, conical; ears about half as long as the head, acute.

*Cephalophus coronatus*, Gray, Ann. and Mag. Nat. Hist. x. 1842, 266. 1846, 164; Knowsley Menag. 9. t. 6. f. 1, 2.

Inhabits W. Africa; Gambia, Macarthy's Island. Mr. Whitfield called it *The Coquette*. Brit. Mus.

\*\*\*\* *Knees not tufted; ears moderate, rounded; horns conical, thick; without any streak over the eyes.*

6. CEPHALOPHUS SYLVICULTRIX. The WHITE-BACKED BUSH BUCK.

Blackish brown, minutely grised; hair brown, with whitish tips; back with a large yellowish white spot, narrow in front; throat, chest and belly redder; crown, nape and legs darker; horns — ?

*Antelope sylvicultrix*, Afzelius, N. Act. Upsal. vii. 1238; H. Smith, G. A. K. t. 187.—*C. sylvicultrix*, Gray, Knowsley Menag. 10. t. 8. f. 1.

Inhabits Sierra Leone, in swampy places. Brit. Mus.

Varies in the size of the dorsal spot.

In the British Museum is a young male: length 29 inches; height 18; tarsus 6.9.

7. CEPHALOPHUS OGILBII. The BLACK-STRIPED BUSH BUCK.

Pale bay brown, with a deep black dorsal streak; beneath pale; crown and haunches brighter bay; neck and withers, and sides of the



dorsal line varied with deep brown hairs; streak up the fore-leg, upper part of hock, feet (above the hoof) and end of tail blackish; horns short, thick, conical, very rugose on the inner front edges of the base.

*Cephalophus Ogilbii*, Gray, Ann. and Mag. Nat. Hist. 1842; Knowsley Menag. 10. t. 8. f. 2; Frazer, Zool. Typ. t. — *Antilope Ogilbii*, Waterh. P. Z. S. 1838, 60. 1842, 129.

Inhabits Fernando Po (*J. Thompson, Esq.*). Brit. Mus. Not half the size of the preceding.

#### 8. CEPHALOPHUS DORSALIS. The BAY BUSH GOAT.

Dark bay; shoulders and legs darker; hair brown, a few on the haunches white-tipped; crown and nape, broad streak along the back to end of tail black; spot over each eye; lips, sides of chin, front of chest, under side of tail and inside of thighs pale brown.

*Cephalophus dorsalis*, Gray, Ann. and Mag. Nat. Hist. 1846, 165; Knowsley Menag. 10. t. 7. f. 1.

Inhabits Sierra Leone: called *Bush Goat*. Brit. Mus. The head is very large, the skull short, broad, forehead rounded.

#### 9. CEPHALOPHUS NIGER. The BLACK BUSH BUCK.

Sooty black, greyer in the front half of the body; chin, throat, abdomen and inside of thighs grey; forehead and crown dark bay and black mixed; cheeks pale brown and black varied; tail, end whitish.

*Antilope niger*, Mus. Leyden.—*Cephalophus niger*, Gray, Ann. and Mag. Nat. Hist. 1846, 165; Knowsley Menag. 10. t. 7. f. 2.

Inhabits Guinea. British Museum. Sierra Leone (*Mr. Whitfield*). Knowsley Museum.

In the British Museum there is a male from the Leyden Museum, nearly as large as the former.

#### 10. CEPHALOPHUS NATALENSIS. The NATAL BUSH BUCK.

Bright red bay; nape, withers and feet varied with dark grey hairs; nose-streak short, blackish; lips, chin, upper part of throat and end of tail white; lower part of cheeks, throat and abdomen pale yellowish; crown and tuft bright red; horns short, conical.

*Antilope natalensis*, A. Smith, S. Afr. Quart. Journ. 217; Illust. Z. S. A. t. 32.—*Cephalophus natalensis*, Gray, Knowsley Menag. 10.

Inhabits S. Africa. Port Natal. Brit. Mus. Five specimens of different ages. Resembles *C. Ogilbii* in size and colouring, but wants the dorsal streak. The females are horned.

#### 11. CEPHALOPHUS RUFILATUS. The COQUETOON.

Deep reddish bay; legs, nape, streak on the nose to the crown and broad streak on the back blackish grey; ears blackish; crest and upper part of tail black; cheeks rather paler; chin and abdomen pale yellowish; inside of ears whitish, with a brown spot on the outer side; horns conical, rather elongate, obscurely annulated, slightly recurved.



*Cephalophus rufilatus*, Gray, Ann. and Mag. Nat. Hist. 1846, 166; Knowsley Menag. 10. t. 9.—*Antilope Grimmia*, H. Smith, G. A. K. v. 266.—*Le Grimme*, Buffon, H. N. xii. t. 41. f. 2, 3?

*Var.* 1. Sides paler, greyish red; forehead rough.

*Le Grimme*, F. Cuv. Mamm. Lithog. t. . not good.

Inhabits Sierra Leone, called *Coquetoan*. Brit. Mus.

The hair is rather paler at the base, of the dorsal streak grey, with a blackish tip.

M. F. Cuvier's (Mamm. Lithog. t. .) figure is the pale variety, which Mr. Whitfield regards as distinct; he says it is called *Grimme* by the natives: the separate head of Cuvier's plate appears to have been taken from the *Guevei*.

\*\*\*\* *Knees not tufted; ears moderate, rounded; horns short, thick, conical; head with a pale streak on each side over the eyes to the base of the horns.*

## 12. CEPHALOPHUS MAXWELLII. The GUEVEI.

Grey brown or sooty brown; sides of head and body greyer; chin, throat, chest and belly whitish grey; abdomen and front of thigh white; broad streak over each eye to the base of the horns yellowish white; feet and end of nose rather darker; fur rather rigid; hair uniform.

*Antilope Maxwellii*, H. Smith, G. A. K. iv. 267.—*A. pygmea*, Pallas, Spic. xii. 18?—*The Guevei*, Buffon, H. N.—*A. pygmea* (*Guevei*), F. Cuv. Mamm. Lithog. t. . good.—*A. Frederici*, Laur.; Sundev.—*A. Philantomba*, Ogilby, P. Z. S. 1836, 121; 1839, 27.—*Cephalophus Maxwellii*, Gray, Knowsley Menag. 11. t. 12.

Inhabits W. Africa. Brit. Mus.

The adult male in the British Museum is bright sooty brown, darker near the rump; the female is nearly uniform pale grey brown. It is well figured by M. F. Cuvier. It is known from *C. monticola* by being larger, by the whiteness of the eye-streak, and of the front of the thigh and chest.

## 13. CEPHALOPHUS MONTICOLA. The NOUMETGE OF CAPE GUEVEI.

Grey brown; streak over the eyes, legs and outer part of thighs rufous; feet grey brown; chin, chest, abdomen, and under side of tail and inside of ears white; fur soft, grey, with intermixed rather rigid black hairs.

*Antilope monticola*, Thunb. Stockh. N. H. xxxii. t. 5.—*A. cærulea*, H. Smith, G. A. K. v. 855; Daniell's Afr. Scen. t. .; Harris, W. A. A. t. 26.—*A. perpusilla*, H. Smith, G. A. K. v. 854.—*A. pygmea*, Licht. Saugth. t. 16; Sundevall.—*Cephalophus monticola*, Gray, Knowsley Menag. 11.

Inhabits S. Africa. Brit. Mus.

The colours vary in intensity; in a female in the British Museum, the rufous colour of the thighs and the white of the chest are more distinct than in the male, but this may depend on the season when



they were killed. A very young fawn (perhaps hardly born), which was brought home from the Cape by M. Verreaux, is darker, and the reddish tint extends over nearly the whole body.

Thunberg described the South African species, but says that there is a specimen in the Stockholm Museum, brought by Afzelius from Sierra Leone, which agrees with his animal; so he evidently did not observe the difference between the two species.

14. *CEPHALOPHUS MELANORHEUS*. The BLACK-RUMPED GUEVEI.

Grey brown; throat and sides paler; rump and upper part of tail black; chin, chest, abdomen, back and front edge of thighs and under part of tail white; narrow streak over the eyes whitish; feet like the back; fur soft, pale grey, with intermixed rather rigid black hairs.

*Cephalophus melanorheus*, Gray, Ann. and Mag. Nat. Hist. 1846; Knowsley Menag. 11. t. 10.—*C. Philantomba*, Gray, Cat. Mamm. B. M. 163 (not H. Smith).

Inhabits Fernando Po (*J. Thompson, Esq.*). Brit. Mus.

This species is coloured like the *Guevei* from W. Africa, but smaller, and have the soft fur and interspersed black hair of the *Cape Guevei*, *C. monticola*, but they are easily known by the black mark on the rump.

15. *CEPHALOPHUS PUNCTULATUS*. The GRISLED GUEVEI.

Dark fulvous brown; sides and legs rather paler; narrow streak over the eyes and inside of ears pale brown; chin, throat, chest, belly and front of thighs and under part of tail white; hair grey at the base, with brown ends and yellow subterminal rings; crown and upper part of tail darker; feet pale, varied.

*Cephalophus punctulatus*, Gray, Ann. and Mag. Nat. Hist. 1846; Knowsley Menag. 11. t. 11. f. 1.

Inhabits Sierra Leone. Brit. Mus. A young specimen presented by Colonel Sabine, R.E.

It is at once known from the other *Gueveis* by the fulvous colour which is produced by the yellow subterminal rings of the hairs.

Colonel H. Smith indicates a species under the name of *C. Philantomba*, but so indistinctly, that it is impossible to know for what it is intended.

16. *CEPHALOPHUS WHITFIELDII*. The WHITE-FOOTED GUEVEI.

Yellowish ash; shoulders, outside of limbs and hinder parts of back rather darker; ears and crown pale yellowish brown; streak over the eyes, cheeks, throat, belly, inside of the limbs and ring round the feet above the hoof ashy white; hair ashy grey; of the back brown at the end, with a yellow tip.

*Cephalophus Whitfieldii*, Gray, Knowsley Menag. 12. t. 11. f. 2.

Inhabits Gambia (*Mr. Whitfield*). Mus. Brit. Young.

Smaller than the *Grisled Guevei*, and much paler and yellower.



\*\*\*\*\* *No tear-bag nor glandular streak on the face, and the muffle large and moist; crown smooth.*

16. NANOTRAGUS, Sundev.; *Neotragus*, part H. Smith.

Horns very short, conical; legs slender; tail subpectinate; hoofs small, triangular, false hoofs none; crown not crested; ears small, rounded.

1. NANOTRAGUS PERPUSILLUS. The ROYAL ANTELOPE.

Fulvous; throat, belly and edge of thighs and tip of tail white.

*Capra perpusilla*, Linn. Mus. Ad. Fred. i. 12.—*Moschus pygmeus*, Linn. S. N. (ed. 12) 92.—*Antilope pygmea*, Pallas, Spic. Zool. xii. 18; Cuv. D. S. N. ii. 241; H. Smith.—*A. regia*, Erxleben, 278.—*A. spiniger*, Temm. Monog.—*Nanotragus regius*, Gray, Knowsley Menag. 12.—*Royal Antelope*, Penn.

Inhabits W. Africa; Guinea. Brit. Mus.

The smallest-hoofed animal. The feet were formerly often used as tobacco-stoppers, and are figured mounted by Seba, t. 43. f. a, b; Buffon, H. N. xii. t. 42, 43.

17. ELEOTRAGUS, Gray; *Redunca*, H. Smith; *Cervicapra*, Blainv., Sundev.; *Nagor*, Laur.; *Sylvicapra*, Ogilby.

Horns conical, bent back and then forward at the top; hoofs and false hoofs rather large; tear-bag none; teats four; inguinal pores distinct.

† *Horns erect, slender, and face narrow; nose swollen; muffle large, extended far behind the nostrils; fur woolly hair.* PELEA. S. Africa.

1. ELEOTRAGUS CAPREOLUS. The REHBOCK or PEELE.

Temple-spot none; head slender, compressed; horns erect, scarcely diverging, very slender; fur short, woolly, grey brown; back redder; throat and beneath white; end of nose and chin blackish; feet darker.

*Antilope Capreolus*, Thunb.; Afzelius, N. Act. Upsal. vii. 251. 1818; Licht. Saugh. t. 8; Harris, W. A. A. t. 25. f. 1.—*A. villosa*, Burchell, 1822; H. Smith.—*A. lanata*, Desmoul.—*Eleotragus Capreolus*, Gray, Knowsley Menag. t. 12. from life.

Inhabits S. Africa. Brit. Mus. Knowsley, living.

†† *Horns diverging, thick, conical; head broad; nose not swollen.*

\* *Muffle large, extended far behind nostrils; fur grised, harsh, straight, with a subterminal pale band, and often whorled; a naked spot on the temple.* South Africa.

2. ELEOTRAGUS ARUNDINACEUS. The INGHALLA or REIT BOCK.

Head broad; temple-spot naked; horns diverging, conical, tapering. Brown, yellow grised; hair pale brown, with a subterminal yellow band; cheeks and neck yellower; base of ears, chest, belly and insides of the legs and under side of bushy tail white; front of legs black.



*Antilope arundinacea*, Shaw, Zool.—*A. Eleotragus*, Schreb. Licht. t. 9; H. Smith; Harris, W. A. A. t. 26.—*A. redunca*, H. Smith; Gray, Cat. B. M.—*A. cinerea*, Afzelius, 1815.—*A. Lalandii*, Desm.; Fischer.—*A. Lalandiana*, Desm.—*Eleotragus arundinaceus*, Gray, Knowsley Menag. 12.

*Var.* Larger.

*A. Isabellina*, Afzelius, N. Act. Upsal. 1815, vii. 244; Licht. t. 10; H. Smith; Sundev.

*Var.* With a large black rhombic spot on the back of the head behind the ears. Female in Brit. Mus.

Inhabits S. Africa, in marshy places. Brit. Mus.

Afzelius, Lichtenstein, H. Smith and Sundevall have described two species of this genus as coming from South Africa; the smaller they call *A. Eleotragus*, and the larger *A. Isabellina*. The latter author has given a comparative character between the two kinds, but he has only seen two specimens of the former (a male at Berlin and a female at Stockholm), and several specimens of the larger kind. I have examined with care a series consisting of four males and five females from different parts of South Africa, and can find no distinction between them, except a slight difference in the length of the fur and in its colour. Two specimens in the British Museum are larger than the rest, and have the tarsus one-fourth longer than the others; they have a shorter fur and are of a rather brighter colour, and the front of the leg is blacker; but the fur and colour probably depend on the season when they were killed. In these respects they agree with Sundevall's description of *A. Isabellina*, but they both have the temporal spot large and quite naked, while Prof. Sundevall described the spot on this species as pubescent. The female of the larger specimen that has the black spot on the back of the head; some of the smaller ones have the temple-spot much smaller and less naked than the others. The two larger specimens have a single whorl of hair in the middle of the back; the others, with longer hair, show the whorls more distinctly, and have the hair from the central whorls to the shoulders forming a more or less diverging line. After examining these specimens and those in other collections, I conclude that they form only a single species. M. Sundevall, in a note just received, observes, "Mr. Wahlberg considers *A. Isabellina* and *A. Eleotragus* as very distinct, and our specimens seem to show a difference, though not very well expressed. Also I have committed a mistake, for the young female described in my Synopsis as  $\gamma$ . under *A. Isabellina*, is really *A. Eleotragus*."

\*\* *The muffle smaller, scarcely extending beyond the nostrils; fur fulvous, not grised; hair grey, with yellow tips; tail less bushy.*  
W. and E. Africa.

### 3. ELEOTRAGUS REDUNCUS. The WONTO or NAGOR, or RED ANTELOPE.

Head broad; horns conical, thick at the base, diverging; fulvous brown, rather pale on the sides; hair soft, yellow tipped, all in regu-



lar order; chin, throat, spot under ears and over eyes, inside of limbs, under side of tail and lower side of body white; front of leg sometimes blackish.

*Antilope redunca*, Pallas?; Rüppell, Abyss. t. 7, good.—*A. rufa*, Afzelius, 250, from Buffon.—*A. reversa*, Pallas?—*Nagor*, Buffon, xii. t. 46?—*Oureby*, F. Cuv. Mamm. Lithog. t. ♀.—*A. Isabellina*, Gray, Cat. Mamm. Brit. Mus.—*Eleotragus reduncus*, Gray, Knowsley Menag. 13. t. 13.

Inhabits "Senegal." Mus. Frankfort and Mus. Leyden. Gambia (*Whitfield*), where it is called *Wonto*. Male and fawn, British Museum, and a young male living at Knowsley, from the Gambia.

*Var.* Larger, colour brighter.

*A. Bohor*, Rüppell, Abyss. t. 7; Sundev.

Inhabits Abyssinia. Mus. Frankfort.

Pallas and Afzelius's account of this species is derived from Buffon's description; both he and Adanson (Hist. Nat. xii. 326) say that it is "all pale red," and Buffon further observes that it has not the white on the belly of the Gazelles. This does not agree with our animal, which is white in several parts, but certainly not so white as the Gazelle, and has black on the legs; but as yet no other animal has been brought from West Africa, which better agrees with their account or figure.

M. Sundevall considers specimens of the *Nagor* of Senegal and the *Bohor* of Abyssinia, in the Frankfort Museum, as distinct, the former having the hair of the back whorled, the fore-leg with a dark stripe, and the latter having the hair not whorled and the legs pale. Our specimens, from Gambia, have the hair not whorled, and more or less distinct streaks on the fore-legs; hence I am inclined to believe the *Nagor* and the *Bohor* to be alike. Sundevall's animal may be the *Kob*, but that has only one whorl on each end of the back, a nearly cervine muffle, and the end of the tail black.

When in Frankfort, I observed that the male *Antilope Bohor*, from Abyssinia, was rather larger than the male of "*A. redunca*," from Senegal, in the same collection, and much brighter, and the horns more slender; the female was darker and browner than the male; both sexes have more black on the carpus and tarsus than in the specimen of *A. redunca* in the same museum.

Colonel Hamilton Smith formed a genus for two pairs of horns on part of the frontal bones in the College of Surgeons belonging to this group of Antelopes, which he called *Raphicerus acuticornis* and *R. subulata* (Griffith, A. K. t. 181. f. 2, 1). The figures are not sufficient to identify the species, and we now know that the horns of the same species differ greatly in individuals of the same species, and during the growth of the same specimen. *R. acuticornis* may be the horns of the *Duyker Boc*, *Ceph. Grimmia*?

2. The CERVINE ANTELOPES have an elongated tail, cylindrical at the base, and with long hair at the end, often forming a compressed ridge; the body heavy and the limbs strong. They are of a large size.



A. Neck not maned.

## 18. ADENOTA.

Muffle cordate, moderate, cervine; nose hairy between the back of the nostrils; horns sublyrate, ringed, when young rather recurved; place of tear-bag covered with a tuft of hair; hair of the back whorled, of dorsal line and back of head reversed; tail elongate, hairy.

This genus is very like *Eleotragus*, but has a smaller, more cervine muzzle and lyrated horns; it differs from *Cobus* in the form of the tail, and wanting the mane, and from both in having a tuft of hair in the front of the orbit.

\* Horns sublyrate; tail hairy.

### 1. ADENOTA KOB. The ÆQUITOON.

Pale brown; end of nose, inside of ears, chest, belly, inside of legs and thighs, tip of tail, and band above hoofs white; front of fore and hind legs, and end of ears and tail black; hair of the dorsal line reversed, with a whorl on the shoulders and loins.

*Antelope Kob*, Erxl. from *Kob*, Buffon, H. N. xii. t. 32. f. 1? —*Kobus Adansonii*, A. Smith, from Buffon.—*Gambian Antelope*, Penn. Syn. 39, from Buffon.—*A. adenota*, H. Smith, G. A. K. iv. 224. t. 184. and t. 183. f. 3, 4. horns?

*A. Kob*, Ogilby, P. Z. S. 1836.—*A. annulipes*, Gray, Ann. and Mag. Nat. Hist. 1843.—*Adenota Kob*, Gray, Knows. Menag. 14. t. 14, 15.

*Var.* Female, hair longer, sides of face whitish.

*A. sing-sing*, Gray, Cat. Mamm. Brit. Mus. 159, not Bennett.

Inhabits W. Africa; Gambia. Called *Æquitoon* by the Joliffs, and *Kob* by the Mandingoes.

A fine pair has been at Knowsley some years. Thinking them new, I described them as *A. annulipes*. Mr. Ogilby has called it the *Nagor*, but it is scarcely the *Nagor* of Buffon. An adult male noticed by Mr. Ogilby as the *Kob* is now in the Museum of the Zoological Society; its horns, like the male at Knowsley, are much worn down. They whistle like a stag.

Buffon (H. N. xii. 219. 267. t. 32. f. 1) figures a skull with horns, brought from Senegal by Adanson, under the name of *Kob*, which is also called the *Petit vache brune*. Erxleben gave this figure the name of *A. kob*, and Pennant called it the *Gambian Antelope*, Syn. i. 39. The figures somewhat resemble the head of a half-grown male of this species, but the horns are longer, and have more rings than the specimen in the British Museum; but I am inclined to agree with Mr. Ogilby in believing that it was intended for this species. In the Jardin des Plantes they called the Sing-Sing the *Kob* of Senegal; this may be a mistake for the *Koba*. I may remark that the horns of the *Koba* in the same plate of Buffon are represented with more rings than are mentioned in the description.

Colonel Hamilton Smith describes and figures a male and female specimen which were alive in Exeter Change, and figures the male and its skull and horns under the name of *A. adenota*, which well

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agrees with this species, and has the peculiar distribution of its hair ; hence its name : but he says, it has "a long open suborbital slit, and small black brushes on the knees;" but this I suspect must be a mistake, as he himself observes no lachrymal cavity was found in the skull. He might have mistaken the tuft of hair for the gland at the distance at which he saw the specimens. He also (G. A. K. iv. 221) described a specimen which was in Exeter Change, which he regarded as the *Gambian Antelope* of Pennant, and calls *A. forfex*. His characters agree in most particulars with this species, but he says it had "a long lachrymal sinus, and had small brushes on the knees." If there was not some mistake in transcribing these descriptions, both these animals should be *Gazellas*, but I have never seen any which agreed with them.

The young male in the British Museum shows the development of the horns of these animals. The upper rings of the growing horn fall off in large thick flakes as the horn increases in size beneath : this explains how the extent of the smooth tapering part of the horns increases in length as the horn grows, and how the number of rings are found to be nearly the same in the various ages, and different individuals of the various species. Mr. Whitfield informs me that the scrotum is rarely developed or dependent externally in different kinds of Antelopes before they have completed their first year.

**\*\* Horns elongate, recurved at the tip ; tail slender, end tufted.**

## 2. ADENOTA LECHÈ. The LECHÈ. (Mammalia, Pl. XX.)

Pale brown ; orbits, chest and beneath white ; front of legs dark brown ; fur short, adpressed, upper part of nape and withers with a small whorl of hair ; tail slender at the base.

*Léchee*, *Oswell*, *Journ. Roy. Geog. Soc.* xx. 150, 1850.—*Kobus Lechè*, *Gray*, *Knowsley Menag.* 23.

Inhabits S. Africa ; bank of river Zouga, lat. 22° S. (*Capt. Frank Vardon*). *Oswell*, l. c. 150, *Brit. Mus.*

This animal is nearly as large as the *Water Buck*. The horns are very like those of that animal ; the neck is covered with short adpressed hair, and has no appearance of a mane.

### B. Neck maned on the sides.

## 19. KOBUS, H. Smith ; *Cervicapra*, § Sundev. ; *Ægocerus*, Harris ; *Kolus*, Gesner, Gray.

Horns elongate, sublyrate, bent back and then forward at the top ; muzzle cervine ; tear-bag none ; inguinal pores none ; hair rough, elongate ; neck covered with longer, diverging and drooping hair ; tail rather elongated, depressed, hairy on the sides and below : females hornless ; teats four ; animal very large.

## 1. KOBUS ELLIPSIPRYMNUS. The PHOTOMOK or WATERBUCK.

Rump with a whitish elliptical ring near the base of the tail, brownish ; horns converging at the tip.



Printed by Hallman & Walter.



Wolf del. et lith.

ADENOTA LECHE' Gray.







*Antilope Ellipsiprymna*, Ogilby, P. Z. S. 1833, 47; Harris, W. A. Africa, t. 14.—*Kobus Ellipsiprymnus*, A. Smith, Illus. Z. S. A. t. 28, 29.—Gray, Knows. Menag. 15.

Inhabits S. Africa. Brit. Mus.

The horns figured as *A. Kemas*? (H. Smith, G. A. K. t. 181. f. 6) appear to belong to this species.

## 2. KOBUS SING-SING. The SING-SING.

Anal ring none. Reddish or yellowish grey brown, rather greyer on the shoulders; nose, lips and hinder part of the thighs, under the neck, from the ears to the gullet, a streak over each eye, and ring above the hoofs and false hoofs white; belly and legs blacker; end of tail, and legs from shoulder to hough black. Female greyer; belly and upper part of legs paler.

*Antilope Sing-Sing*, Bennett, Waterhouse, Cat. Zool. Soc. Mus. 41. n. 378.—*A. defassa*, Rüppell, Abyss. t. 3.—*A. unctuosus*, Laur., D'Orbig. Dict. Univ. H. N. i. t. 622. ♂. good.—*A. Koba*, Ogilby, Penny Cyclop. ii. 79. fig. ♀; P. Z. S. 1836, not Erxleben.—*Koba*, Buffon, H. N. xii. 210, 267. t. 32. f. 2, horns?—*Senegal Antelope*, Pennant, Syn. 38 (part from Buffon only).—*Kobus Sing-Sing*, Gray, Knows. Menag. 15.

Inhabits N. and W. Africa; Senegal; Gambia, where it is called *Kassimause* and *Kob* (*Whitfield*). Brit. Mus. Abyssinia (*Rüppell*). Mus. Frankfort.

This species varies much in the tint of the colouring, and in the length of the hair in the different seasons. In summer they are covered with very short, closely pressed fur, letting the skin be seen between the hairs. In the cold weather, and in England, the fur is longer and more abundant. The hair of the chin and neck is long and rigid in all seasons, and even in the young animals. The tail of the adult specimen is cylindrical and nearly bald, ending in a tuft of black hair; in the young specimens, especially in the winter fur, the base of the tail is fringed with hair on each side. The male is much brighter coloured, and the chest and belly are nearly black like the legs. The hinder parts of the rump of the young animals are greyish white; in the older specimens it becomes pure white and broader in extent.

This animal is called *Sing-Sing* by all the negroes. They do not think their flocks of cattle will be healthy or fruitful unless they have one of the Sing-Sings accompanying them, as some persons think a Goat necessary to be in a stable in England. The English on the Gambia call it the *Jackass Deer* from its appearance, and it is called *Koba* and *Kassimause* by the negroes at Macarthy's Island. Its flesh is very strong, unpleasant, and scarcely palatable.

As far as I could judge by my recollection and description, the adult specimen at Knowsley, the young male and adult female in the British Museum, the male and female at Frankfort, and the adult male in the Paris menageries, are the same species.

Buffon figured (Hist. Nat. 210, 267. xii. t. 32. f. 2) under the name of *Koba* a pair of horns which were in the library of St. Victor



at Paris. He described them as larger and more curved above than those of the *Kob*, eighteen inches long and five inches in circumference at the base, and he refers them to an animal which Adanson says is called *Koba* in Senegal, and the *Great Brown Cow* by the French colonists. Pallas refers these horns to *A. Pygargus*, and the figures and description agree in many particulars with the horns of that species; but they are rather longer, and have more rings. Pennant (Syn. Mam. 38) has given the name of *Senegal Antelope* to Buffon's short account and figure, but has added to it the description and the figure of the head of a skin which came from Amsterdam, and appears to be *A. Caama* of South Africa. Cuvier (Dict. Sci. Nat. ii. 235) has translated Pennant's name to *A. Senegalensis*. Erxleben (Syn. 293) and Zimmerman (Zool. 345) have translated Pennant's description of his skin of *A. Caama*, and called it *A. Koba*, referring to Buffon's description and Daubenton's figure. Fischer, Hamilton Smith and M. Sundevall regard the *Koba* of Buffon the same as the *Korrigum* of Denham and Clapperton, but the horns of that species are considerably longer and much thicker at the base than those described by Daubenton, and the annulations of the horns are higher and more regular: but it may be remarked that Buffon describes his horns as having eleven or twelve rings, but figures them as having seventeen or eighteen. Mr. Ogilby (Penny Cyclopædia and the Proceedings of the Zoological Society) considers Buffon's *Koba* to be the *Sing-Sing*; and in the length of the horns, and in the number, disposition and form of the rings, his figure more nearly agrees with the horns of that species than of that of the *A. Pygarga*, to which Pallas first referred it; but the horns are represented much more lyrated than any horns of the *Sing-Sing* I have seen; indeed, not one of the specimens which have come under my observation have had any inclination to assume that form: but as this is the only Western-African species which in any way agrees with Buffon's figure, perhaps it is best to adopt Mr. Ogilby's suggestion. The name of *Koba* or *Kob* appears to be common to many species. Schinz erroneously considers *Damalis Senegalensis*, *Antelope adenota* and *A. forfex* (H. Smith) as synonyms of this species.

c. *Nape with a linear, central, compressed, recurved mane.*

20. AIGOCERUS, H. Smith; *Egocerus*, Desm.;  
*Hippotragus*, Sundev.

Horns conical, elongate, rather compressed, ringed, recurved; back of the neck with a linear reversed mane; tear-gland covered with a tuft of hair; teats two.

1. AIGOCERUS EQUINUS. The ETAAK or EQUINE ANTELOPE.

Spot above the eyes and pencil before the eyes fulvous grey; nose whitish; face black; nuchal mane distinct.

*Aigoceros Equina*, H. Smith; Harris, W. A. A. t. 21.—*A. glauca*, Forster.—*A. Osanne*, Geoff.—*A. barbata*, H. Smith.—*A. Truteri*, Fischer.—*A. aurita*, Burch. MSS.—*Capra Æthiopica*, Schinz.—



*Tzeiran*, Buffon, H. N. xii. t. 31. f. 6, horn.—*Aigocerus Equinus* and *A. leucophæus*, Gray, Knows. Men. 16.

Inhabits S. Africa. Brit. Mus. W. Africa; Gambia (*Whitfield*). Horns. Brit. Mus.

*Var.?* Smaller. "Fur glaucous grey; tuft before the eye short, brown; nuchal crest none; hoofs small."—*Sundevall*.

*Antilope leucophæus*, Pallas; H. Smith, G. A. K. v. t. 179.—*Aigocerus leucophæus*, Gray, Knows. Menag. 16.

Inhabits the Cape of Good Hope; now extinct. Mus. Stockholm, Mus. Upsal and Mus. Paris.

The head of the female covered with the skin from Macarthy's Island, on the coast of Gambia, which Mr. Whitfield brought home, did not appear to differ from the specimen from the Cape in the British Museum. The species does not appear to be uncommon in the locality, for Mr. Whitfield brought over several pairs of horns. He states the flesh is very good venison. "It is called *Dacoi* or *White Mouth* by the Mandingoes, *Kob* and *Koba* by the Joliffs, and *Vache brune* by the French at Senegal." This is certainly not the *Kob* of Buffon (xii. t. 32. f. 1, 2). The negroes at the Gambia declare that this animal never bears more than one fawn; for after that period, the horns increase in length, and enter the loins and destroy the animals!

Buffon (xii. 271. t. 31. f. 6) figures the horn of this species, which had been made into a powder-flask, under the name of *Tzeiran*.

*A. barbata* of Daniels appears to be only a bad drawing of this species.

The variety is the size of the Common Stag, *Cervus Elaphus*. M. Sundevall observes that it is as different from *A. Equina*, as the species of *Eleotragi* and *Tragelaphi* are from one another; and he observes, in a letter I have just received, "I must tell you, that after the inspection of a whole series of *A. Equina*, which Wahlberg brought home, I am convinced that the *A. leucophæa* of Pallas is a very distinct race. Our stuffed specimen, that must have been adult, has much smaller hoofs than the very young *A. Equina*, male as well as female, amongst Wahlberg's, and in the tuft over the lachrymal sinus, as I have shortly expressed in the printed survey."

When I examined the specimen at Paris I regarded it as a young or rather dwarf specimen of *A. Equina*, and the absence of the nuchal crest led to this belief; and I am not satisfied that the number of rings on the horns are a sufficient proof of its being adult.

## 2. AIGOCERUS NIGER. The BLACK BOK.

Black; female and young brown; face white, with a dark streak.

*Antilope niger* and *A. Harrisii*, Harris, Wild African Anim. t. 23.—*Aigocerus niger*, Gray, Knows. Menag. 17.

Inhabits S. Africa. Brit. Mus. Males and female and young.

## 21. ORYX, Blainv., H. Smith.

Horns elongate, subulate, ringed at the base, straight, or slightly arched, placed in a line with the face; neck maned above and below;



tear-bag none; nose subcervine, with a marginal muffle; hoofs narrowed in front, false hoofs large; teats four (two, *Harris*). In the skull there is a slight suborbital fissure, but no pit, and the grinders have supplementary lobes.

\* *Horns straight.*

1. ORYX GAZELLA. The KOOKAAM or GEMSBOK.

Horns straight, shelving backwards; throat with a bunch of black hairs; black streak on the face, conjoined under the chin; rump, face, spinal line, lateral streak, and very broad band on the thigh and cubitus black in summer. Young pale brown; hairs blackish at the base.

*Capra Gazella*, Linn.—*Antilope Oryx*, Pallas; H. Smith.—*A. bezoartica*, Pallas.—*A. recticornis*, Erxl.; Pallas, Nov. Comm. Petrop. xiii. t. 10. f. 6.—*Oryx Capensis*, Ogilby; Harris, W. A. A. t. 9.—*O. Gazella*, Gray, Knows. Menag. 17. t. 16. f. 2, young.

Inhabits S. Africa; Cape of Good Hope. Brit. Mus. Adult and young.

2. ORYX BEISA. The BĒISA.

Horns straight; throat without any bunch of hairs; black face-streaks separate. "Pale; face, belly and limbs white; front of face, two streaks on cheek, narrow line along throat, dorsal streak, streak on each side of abdomen, band round upper part, and streak in front of lower part of fore-leg and end of tail black."

*Antilope Beisa*, Rüppell, Atlas, t. 5.—*Oryx Beisa*, Sundevall.—*A. Dammah*, Rüppell.

Inhabits Abyssinia. Mus. Frankfort.

There is a male and female in the Frankfort Museum; they are smaller than *A. Gazella* of the Cape, and both have the face-streaks separate: there is a black streak on the throat, as in *A. Gazella*, but no bunch, nor is there any in the Frankfort specimen of *A. Gazella*: the mane of the nape of the male is small, indistinct, continued behind in a broader dark streak to the middle of the loins. In the male the mane is blackish, in the female like the back. They have no dark mark on the rump, found in *A. Gazella*.

\*\* *Horns arched, recurved.*

3. ORYX LEUCORYX. The ORYX.

Horns slender, slightly arched: white, reddish varied; in winter greyish.

*Antilope leucoryx*, Pallas; Ehrenb. S. P. t. 3; Licht. Saugth. t. 1.—*A. ensicornis*, Ehrenb.—*A. Algazella*, Rüpp. t. .—*A. Gazella*, Pallas.—*A. bezoartica*, Erxl.; H. Smith.—*Algazelle*, F. Cuv. Mam. Lith. t. .—*A. Eleotragus*, Schreb. t. . (not descrip.)—*Oryx leucoryx*, Gray, Knows. Menag. 17. t. 16. f. 1, young; t. 17, adult.

Inhabits N. and W. Africa; Nubia; Sennaar; Senegal. Brit. Mus.

I have compared the Nubian and Senegal specimens, and cannot discover any difference between them.



D. *Throat slightly maned, neck simple.*

22. ADDAX; *Oryx*, part Blainv. and others; *Gazella*, part H. Smith.

Horns slender, elongate, ringed, slightly spirally twisted, nearly on a line with the face; neck with a slight gular, but no nuchal mane; nose ovine, hairy; hoofs semicircular, edged; tear-bag marked by a tuft of hair; forehead longly hairy.

## 1. ADDAX NASOMACULATUS. The ADDAX.

White; forehead and front of face darker; grey in winter.

*Antilope nasomaculatus*, Blainv. Bull. Soc. Phil. 1816, 78; H. Smith.—*A. Addax*, Licht. Saugth. t. 2; Rüpp. Atlas, t. 7; Mam. Lith. t. .—*A. suturosa*, Otto, N. A. Nat. Cur. xii. t. 48; Griffith, A. K. t. 180.—*A. gibbosa*, Savi.—*A. Tao*, H. Smith.—*A. Mytilopes*, H. Smith, G. A. K. t. 182, 183. f. 6.—*Strepsiceros*, Cajus.—*Addax*, F. Cuvier, Mam. Lith. t. . (winter and summer); Ehrenberg, S. Phys. t. 4, male and female.—*Capra Cervicapra*, Linn. S. N. ed. 10.—*Ant. Cervicapra*, Children, Denham Trav.—*Addax nasomaculatus*, Gray, Knows. Men. 17. t. 18.

Inhabits N. Africa. Brit. Mus.

3. The GOAT-LIKE ANTELOPES have a very short flat tail, hairy above. They have heavy bodies, covered with rough, rigid or woolly fur, strong legs, large hoofs and false hoofs. The horns are conical and recurved.

A. *Nose cervine, muffle moderate; horns short, inclined, recurved.*

23. CAPRICORNIS, Ogilby; *Nemorhedus*, part H. Smith.

Horns short, strong, conical, ringed, inclined and recurved, arising behind the orbits; nose cervine, muffle moderate, bald; tear-bag and interdigital pores large; skull with a more or less deep rounded pit, and no suborbital fissure; grinders without supplemental lobes. Asia.

## 1. CAPRICORNIS SUMATRENSIS. The CAMBING OUTAN.

Black; chin and linear nuchal mane yellowish, especially near the withers; inside of the ears white. Young like the adult.

*Antilope Sumatrensis*, Shaw; H. Smith, G. A. K. t. 189 (cop. from); F. Cuv. Mam. Lith. t. .—*A. interscapularis*, Licht.—*Capricornis Sumatrensis*, Gray, Knows. Menag. 18.

Inhabits Sumatra. Mus. Leyden.

## 2. CAPRICORNIS BUBALINA. The THAAR or THAR.

Grey brown, blackish washed; crown and dorsal line black; thighs and outside of legs rufous; nose, chin, inside of ear, lower part of mane and legs below the hocks whitish.

*Antilope Bubalina*, Hodgson, P. Z. S. 1832, 12.—*A. Thar*, Hodgson.—*Nemorhedus proclivis*, Hodgson.—*Capricornis Bubalina*, Gray, Knows. Menag. 18.

Inhabits India; Nepal. Mus. Brit.



A head was sent to the United Service Museum by Lieut.-Colonel Childers, of the 11th Dragoons, in 1820, under the name of *Serow* or *Imo*. "It is not speedy, as might be inferred from its make. Its flesh is very coarse and bad. It is usually killed with poisoned arrows."—*Hodgson*, l. c. 14.

3. CAPRICORNIS? CRISPA. The JAPANESE GOAT ANTELOPE.

Fur very fine, elongate, rather woolly, crisp; brown or brownish; feet and ears darker; throat whitish: female paler; tear-bag a naked spot?

*Antilope crista*, Temm. Faun. Japan. t. 18, 19.—*Capricornis crista*, Gray, Knows. Menag. 18.

Inhabits Japan. Mus. Leyden.

\*\* *Nose ovine, hairy, without any muffle; horns short, conical, recurved, ringed.*

24. NEMORHEDUS, part H. Smith; *Kemas*, Hodgson.

Horns short, conical, inclined and recurved, arising from behind the orbits; nose ovine, hairy; muffle none; tear-bag none; interdigital pores large; fur short.

1. NEMORHEDUS GORAL. The GORAL.

Grey brown, black punctulated; streak on lower part of back of neck blackish; cheeks, chin and upper part of throat white; front of fore-legs blackish; feet rufous. Young paler; dorsal line rather darker.

*Antilope Goral*, Hardw. Linn. Trans. xiv. t. 14; Calcutta J. N. H. i. t. 12. f. 2, 3.—*A. Goral*, Hodgson.—*Bouquetin du Nepaul*, F. Cuv. Mam. Lith. t. . (copy from Hardw.)—*A. Duvaucellii*, H. Smith.—*Nemorhedus Goral*, H. Smith; Gray, Knows. Menag. 18.

Inhabits Nepal. Brit. Mus.

*A. Duvaucellii* (H. Smith) was described from a drawing traced from one of General Hardwicke's figures of this species, and badly coloured, which Duvaucel sent to Paris without any notes. It has no connection with *C. Sumatrensis*, to which many naturalists have referred it. In the Bengal Journal two Antelopes, said to resemble the *Goral*, are mentioned as found in Affghanistan, one called *Suja* and the other *Goomast*.

25. MAZAMA, Rafinesque; *Aplocerus*, H. Smith.

Horns small, conical, nearly erect, slightly inclined and recurved at the tip, ringed at the base; nose ovine, hairy; muffle none; tear-bag none; fur short, under fur woolly, outer very long, hairy and dependent.

1. MAZAMA AMERICANA. The MAZAMA or SPRINGBUCK.

White; horns, hoof and edge of nostrils black.

*Rupicapra Americana*, Blainv.—*Antilope Americana*, Desm.—*Capra Americana*, Rich. F. B. A. 268. t. 22.—*Ovis montana*, Ord.—



*Capra montana*, Harlan.—*A. lanigera*, H. Smith.—*Mazama dorsata* and *M. sericea*, Rafin.—*A. Mazama* and *Apl. Femmamazama*, H. Smith.—*Capra? Columbiana*, Desmoul.—*Rock Mountain Sheep*, Jameson, Mem. Wern. Soc. iii. 306.—*Mazama Americana*, Gray, K. M. 19.

Inhabits N. America; Rocky Mountains. Mus. Linn. Soc. and Zool. Soc.

26. RUPICAPRA, H. Smith; *Capella*, Keys. & Blas.; *Kemas*, Ogilby.

Horns elongate, slender, erect, recurved at the tip; nose ovine, hairy; muffle none; fur soft; skull without any pit, and with a minute suborbital fissure; grinders without supplemental lobes, cutting-teeth equal-sized, erect.

1. RUPICAPRA TRAGUS. The CHAMOISE or GERUS.

Brown yellowish, with a dark dorsal streak in summer, blackish in winter.

*Capra Rupicapra*, Linn.—*A. Rupicapra*, Pallas; H. Smith, G. A. K. t. 90.—*Rupicapra Tragus*, Gray, K. M. 19.—*R. Capella*, Bonap.—*R. pyrenaica*, Bonap.—*Tragus Dorcas*, Klein.—*Chamoise*, Buffon, H. N. xii. t. 16; F. Cuv. Mam. Lith. t. .

Inhabits S. Europe; Switzerland, Pyrenees, and Pindarus. Brit. Mus.

I have compared the Swiss, Pyrenean and Greek specimens, and cannot find any character to separate them.

27. ANTILOCAPRA, Ord; *Dicranocerus*, H. Smith;  
*Oreammos*, Rafin.; *Cervus*, Blainv.

Horns erect, the base compressed with a flattened process in front, the end conical, recurved; nose ovine, hairy; muffle none; fur very close; hair stiff, coarse, flattened, wavy; tail very short; false hoofs none; tear-bag none; inguinal pores none; legs rather slenderer than the other *Goat Antelopes*; skull without any sub-orbital depression, but with a lengthened fissure; grinders without supplemental lobes, cutting-teeth equal-sized and shelving.

1. ANTILOCAPRA AMERICANA. The CABRIT or PRONGHORN.

Pale fulvous; upper part of rump white.

*Antelope Americana*, Ord, 1815.—*A. furcifer*, *A. palmata*, H. Smith, Linn. Trans. xiv. t. 2, 3; G. A. K. t. 178. t. 199. f. 1-5; Richards. Z. B. A. t. 21.—*Cervus hamatus*, Blainv.—*C. bifurcatus*, Rafin.—*Antilocapra Americana*, Ord; Gray, K. M. 19.

Inhabits N. America; in the plains in summer and in the mountains in winter. Called the *Goat*. Mexico (*Coulter*). Brit. Mus.

Dr. Coulter brought a head from Mexico which had the face dark brown, and the horns large, wide-spreading and much hooked at the tip, like the *A. palmata* of H. Smith (Proc. Zool. Soc. 1826, 121). This is probably only a larger variety in the summer fur.



II. The ANTELOPES OF THE DESERT. Nostrils bearded within beneath, operculated, far apart; horns on the frontal ridge; nose sub-cervine, with a small muffle; legs rather stout; tail elongate; hoofs rather large.

4. The EQUINE ANTELOPES have a very depressed, spongy and bristly muzzle.

28. CATOBLEPAS, Gray; *Connochætes*, Licht.; *Bos*, Forster.

Horns bent down on the sides, recurved at the tip; nose very broad, dilated, spongy, bristly; nostrils operculated; tail elongate, bushy, hairy from the base; hoofs compressed in front; teats four.

This genus has been placed with the Oxen by Forster, and in the Bovine group of genera by Sundevall, but it has all the characters of the true Antelopes in the proportion of its leg-bone.

\* *Nose with a crest of reversed hair; chest maned.* Catoblepas.

1. CATOBLEPAS GNU. The GNU or KOKOON.

Nose with a tuft of reversed hair; chest maned. Brown or blackish; the lower part of the mane and tail often paler or white. Young: pale fulvous; nasal, gular, and nuchal mane black.

*Antelope Gnu*, Sparm.; Zimmerm.—*Bos Connochætes*, Forster.—*Antelope taurina*, Burchell.—*C. Gnu*, H. Smith.—*C. taurina*, H. Smith, not A. Smith.—*Gnu*, F. Cuvier, Mam. Lith. t. ; Harris, W. A. A. t. 1.—*Catoblepas Gnu*, Gray, Knows. Menag. 19. t. 19. f. 1, young.

*Var.* Mane and tail black.

*A. taurina*, Burchell; A. Smith.

Inhabits S. Africa. Brit. Mus.

The *A. Gnu* of Burchell, H. Smith, F. Cuvier and Harris, "and the *Kokong* of Lichtenstein," has a white tail and mane. Burchell and H. Smith have given the name of *A. taurina* to the specimens, which have those parts black. When young they are fulvous, and become black as they reach maturity. The specimen of the *Kokoon* in the Museum of the London Missionary Society (Blomfield Street, Moorfields), named by Colonel H. Smith *Kokoon* (*Cat. taurina*, Griff. A. K. iv. 369, v. 368), is an adult common *Gnu*, *C. Gnu* (*Var.* mane and tail white; *Kokong*, Licht. Trav. Cape), and his description of Dr. Burchell's specimen in the British Museum agrees with the *Gnu*, in having the ridge of hair on the face. Indeed Dr. Burchell (Travels, ii. 278) appears to consider the difference between the *Gnu* and *A. taurina*, that the former has a white and the latter a black tail. Dr. Andrew Smith (Illust. Zool. S. A.) has regarded the *C. taurina* and *C. Gorgon* as the same species. Dr. Sundevall, in his Synopsis, has, by mistake, given the name of *C. taurina* to the *Gorgon*, or *Brindled Gnu* (*C. Gorgon*, H. Smith).



**\*\* Nose with smooth hair ; chest not maned. Gorgon.**

## 2. CATOBLEPAS GORGON. The GORGON.

Face convex, smooth, covered with hair, lying towards the nose ; chest not maned ; black grey, varied and striped. Young : dark grey ; face, gular and nuchal mane and end of tail black. Half-grown : blackish ; crown grey.

*Antilope Gorgon*, H. Smith ; Harris, W. A. A. t. 4.—*Cat. taurina*, Sundev., not Burch. or Smith.—*Catoblepas Gorgon* or *Gorgon fasciatus*, Gray, Knows. Menag. 20. t. 19. f. 2, young.

Inhabits S. Africa. Brit. Mus.

Colonel H. Smith has figured a pair of horns which were in Mr. Brookes's Museum under the name of *C. Brookesii* (t. 201. f. 1). He thinks it is also probable that *Bos Pegaseus* (H. Smith, G. A. K. t. 204, from a drawing of Prince Maurice's) is a species of this genus (H. Smith, Jard. Nat. Lib.).

5. The BOVINE ANTELOPES have the nose moderately broad, with a moderate or small, bald, moist muffle ; the grinders are rather small, without supplemental lobes, the central cutting-teeth enlarged at the end.

## 29. BOSELAPHUS ; *Bubalis*, Licht., Ogilby ; *Acronotus*, H. Smith ; *Bubalus*, A. Smith ; *Alcelaphus*, Blainv. ; *Buselaphus*, Ray.

Horns lyrate, end suddenly curved at a nearly right angle, thick at base, on the upper edge of the frontal bones ; nose moderately broad, cervine ; muffle moderate, bald, moist ; tear-bag covered with a tuft of hair. Females : teats two.

### 1. BOSELAPHUS BUBALIS. The BUBALE.

Pale brown in early uniform ; rump like back.

*Antilope Bubalis*, Pallas.—*Capra Dorcas*, Houttayne, t. 24. f. 3.—*Buselaphus Caji*, Ray.—*Bubalis Mauretanica*, Ogilby ; Sundevall.—*Acronotus Bubalis*, H. Smith.—*Bubale*, F. Cuv. Mam. Lith. t. . . —*Cervine Antelope*, Penn.—*Boselaphus Bubalis*, Gray, K. M. 20. t. 20. f. 1, young.

Inhabits N. Africa. Brit. Mus.

*Var. 1.* Uniform pale brown ; with a dark brown streak down the outer side of the front of the fore-legs, like the streak on the leg of the *Lecama* or *Harte beest* from South Africa, which is not generally found in this species. This skin, without a head or hoofs, was brought by Mr. Frazer to the British Museum, from Tunis ; it probably indicates a third species, or perhaps this streak is only marked in the very adult or fully-coloured specimens.

### 2. BOSELAPHUS CAAMA. The LECAMA or HARTE BEEST.

Grey brown ; dorsal line, streak on face, outer side of limbs black ; large triangular spot on the haunches whitish.

*Antilope Caama*, Cuv. D. S. N. ii. 242 (1816) ; Harris, W. A. A. t. 7 ; A. Smith, Illust. Z. S. A. t. 31.—*A. Bubalis*, Licht. ; Erxleb.



291.—*Acronotus Caama*, H. Smith, G. A. K. t. 197.—*A. Dorcas*, Thunb.; Sparm. K. V. Hand. 1779, t. 5.—*Bubale*, Buffon, H. N. xii. t. 38. f. 2; Supp. iv. t. 15.—*Caama*, Cuvier, Menag. t. —*Senegal Antelope*, Penn. Synn. 38.—*A. Senegalensis*, Cuvier, Dict. Sci. Nat., from Pennant.—*A. Koba*, Erxleb. Syn. 293, from Pennant.—*Boselaphus Caama*, Gray, Knows. Menag. 20. t. 20. f. 2, young. Inhabits S. Africa. Brit. Mus.

Pennant figures the head and horns of this species under the name of *Senegal Antelope*, and erroneously refers to Buffon's figures of the horns of the *Koba* as representing the species, which lead to some confusion; for the *A. Senegalensis* (Cuvier, Dict. Sci. Nat. ii. 235) is an abbreviation, and *A. Koba* (Erxleben, Syn. 293) is a translation, of Pennant's description of this species. Pennant's specimen is said to come from Senegal, but he describes the nuchal line and the knees as black, and the figure indicates the dark colour on the face of the Cape species.

30. DAMALIS; *Damalis acronotus*, sp. H. Smith; *Bubalis*, sp. Sundev.

Horns lyrate, diverging, subcylindrical; nose moderately broad, cervine, with a small, bald, moist muffle between and below the nostrils; tear-bag exposed: females, teats two.

\* *Horns recurved above, diverging from the base; face dark in front.*

1. DAMALIS LUNATUS. The SASSAYBY.

Rufous glaucous, outer sides of the limbs dark.

*Antelope lunata*, Burchell, Trav. ii. 334, 335. fig. —*Damalis (acronotus) lunatus*, H. Smith, G. A. K. t. 198; A. Smith, Zool. S. Afr. t. 31; Harris, W. A. A. t. 8.—*Bubalis lunata*, Sundev.—*Sassaybi*, Daniel, Afr. Scenery, t. —*Damalis lunatus*, Gray, Knows. Menag. 21.

Inhabits S. Africa. Brit. Mus.

\*\* *Horns regularly lyrate, nearly parallel at the base, then diverging, and approaching at the tips; face black marked; tear-bag moderate.*

2. DAMALIS SENEGALENSIS. The KORRIGUM.

Reddish grey; front of face from nose to occiput, a small spot behind the eyes, a small streak above the angle of the mouth, and streak on outside of the limbs above the knees, and tuft of the tail, black. Very young: uniform pale brown, without any dark marks.

*Antelope and Damalis (acronotus) Senegalensis*, H. Smith, G. A. K. v. t. 199. f. 3.—*Antelope Koba*, Children, in Denham and Clapperton's Travels, not Erxleben.—*Bubalis Koba*, Sundevall.—*B. lunata*, Sundev. Act. Stockh. 1842, 201, 243, not Burchell.—*A. Corrigum*, Ogilby.—*Damalis Senegalensis*, Gray, Knows. Menag. 21. t. 21.

Inhabits W. Africa; Gambia River, Macarthy's Island; called *Yonga* or *Yongah* by the Joliffs, and *Tan Rong* by the Mandingoes, Mr. Whitfield. Brit. Mus. Senegal? Sennaar. Mus. Stockholm.



In Denham and Clapperton's Travels I regarded this species as the *Koba* of Buffon, and H. Smith and Dr. Sundevall are of the same opinion: but on comparing the six pairs of horns of this species which I have been able to examine with Buffon's figure and descriptions, I find them all longer and much thicker at the base than Buffon describes them; the thinner (a female?) being 7 and the others 9 or  $9\frac{1}{2}$  inches in circumference, while that which Buffon described is only 5 inches. The rings are also more elevated, and reach nearer to the top than in Buffon's figure. All the characters lead me to believe that the horns figured as those of the *Koba* by Buffon belong to *Damalis Pygarga*. They afford very good venison.

Colonel Hamilton Smith, in 'Griffith's Animal Kingdom,' described and figured the heads brought home by Messrs. Denham and Clapperton as *A. Senegalensis*, but they are different from the one so called by Cuvier. Mr. Ogilby, in the 'Proceedings of the Zoological Society' (1826, 103), proposed to call these heads, *A. Corrigum*.

Under the name of *Antilope Koba*, Schinz (Syn. Mam. ii. 407) combines the *A. defassa*, Rüppell, *Damalis Senegalensis* and *Antilope adenota*, H. Smith, the *Koba* of Buffon, and the *Antilope Koba* or *Caama* of Erxleben.

\*\*\* *Horns regularly lyrate, parallel at the base; face of adult white.*

### 3. DAMALIS PYGARGA. The BONTE BOC.

Purple red, outside of limb dark; rump and face white: fawn pale yellowish brown.

*Antilope Pygarga*, Pallas.—*Bonte Boc* or *Pied Antelope*, *Gazella Pygarga*, Harris, W. A. A. t. 17.—*Bubalis Pygarga*, Sundev.—*A. Dorcas*, Pallas.—*Antilope (Gazella) Pygarga*, H. Smith.—*Damalis Pygarga*, Gray, Knows. Menag. 21. t. 20. f. 3, young; t. 22. f. 2 & 3, adult.

*Half-grown*, face whitish.

*A. personata*, Wood, Zool. Journ. ii. t. .

Inhabits S. Africa. Brit. Mus.

Male: bright purple red, face whitish, dark-edged, with a dark-edged white streak to between the horns; legs whitish, upper and lower part brown varied; temple and upper part of the throat whitish; rump to above the tail pure white; tear-bag round, distinct, moist. The female is similar, but the throat and under part of the body are white. These animals are often brought to the Cape market for food.

### 4. DAMALIS ALBIFRONS. The BLESS BOCK.

Purplish red; face and back of thighs white; rump like back.

*Bless bok* or *Antilope albifrons*, Burchell, Trav. ii. 335?; Harris, W. A. A. t. 21.—*Bubalis albifrons*, Sundev.—*Damalis albifrons*, Gray, Knows. Menag. 22. t. 22. f. 1, half-grown.

Inhabits S. Africa.

A half-grown specimen was darker, with a pale spot between the horns, separated by a dark spot from the white on the face; the



temple was white, with a white spot; the legs had a brown stripe down the outer side of the front; and the throat and rump brown, the latter without any white spot.

Dr. Burchell, when speaking of the *Bless bock*, proposed to call it *A. albifrons*, as the name *Pygarga* has been used for both the *Springer* and the *Bless bock*; but it is not certain if he intended by *Bless bock* this or the preceding species. Captain Harris's figure shows the distinction of the species.

\*\*\*\* *Horn unknown.*

#### 5. DAMALIS? ZEBRA. The DORIA.

Bright golden brown, with numerous black cross bands narrowing at the sides; outer sides of fore and hind legs dark.

*Antilope Zebra*, Gray, Ann. Nat. Hist. 1836.—*A. Doria*, Ogilby, P. Z. S. 1836, 121; Frazer, Z. T. t. —*A. Zebrata*, Robert.—*Viverra Zebra*, Whitfield's MSS.—*Cephalophus? zebra*, Gray, Cat. Mam. B. M.—*Damalis? zebra*, Gray, Knows. Menag. 22.

Inhabits W. Africa; Gambia. Brit. Mus.

Skins without head and feet are alone known; they are brought down by the negroes. In the Catalogue of the Mammalia in the British Museum I have referred this species with doubt to *Cephalophus*. Mr. Ogilby (P. Z. S. 1836, 121) thinks it should be referred with the Harness Antelopes to *Calliope*. I am inclined, on account of the dark mark on the outside of the limb, to think it belongs to the genus *Damalis*. Mr. Whitfield believes it to be a species of *Viverra*.

### THE STREPSICERES.

The animals of this family are peculiar as being the only hollow-horned or Bovine Ruminants which are marked with white stripes and spots. The bands are not very distinct in the *Impoofa* or *Eland*, but they are easily to be observed in the female, if it is looked at obliquely, which was brought home by Burke, and presented to the British Museum by the Earl of Derby. Their nostrils are near together in front. They have four teats in a small udder. The horns generally incline backwards from their base; the skull, which somewhat resembles that of the Deer, has a rather small nasal opening, no suborbital pit, and only a small suborbital fissure.

Colonel H. Smith forms of the larger species three of his four subgenera of *Damalis*: he places the smaller kinds as a subgenus (*Tragelaphus*) of Antelopes.

Prof. Sundevall placed the genera I have here brought together in two different families; the genus *Portax* with the *Bovina*, and the others in the *Sylvicaprina*, or True Antelopes.

The AFRICAN GENERA have large heavy horns, only the rudiments of a tear-bag, and their limbs are nearly equal; they have no supplementary lobes to the grinders, and the central cutting-teeth are enlarged above.



A. The nose hairy, cervine, with only a small moist naked space between the edges of the nostrils, and a narrow streak on the upper lip; the body is large, heavy; the neck is maned.

1. STREPSICEROS, H. Smith; *Calliope*, Ogilby; *Tragelaphus*, sp. Blainv.

Horns large, heavy, spirally twisted, keeled in front; tear-bag a naked space; throat with a central, linear mane: female hornless.

1. STREPSICEROS KUDU. The EECHLONGOLE or KOODOO.

The horns diverge from the line of the forehead, and have two twists; the calf is marked like the adult.

*Antelope Strepsiceros*, Pallas.—*Damalis (Strepsiceros) Strepsiceros*, H. Smith, G. A. K.—*A. Tendal*, Rüppell, Abyss. 22; Fischer, Syn. 475.—*Strepsiceros Kudu*, Gray, Cat. B. M.; Knowsley Menag. 26. t. 24. f. 2, young.—*S. Capensis*, Harris, W. A. A. t. 20.—*S. excelsus*, Sundev.—*Striped Antelope*, Penn.—*Comdoma*, Buffon, H. N. xii. t. 39; Supp. vi. t. 13.

Inhabits S. Africa. Mus. Brit.

Var. Smaller.

Inhab. Abyssinia. Mus. E. India Company, adult. Mus. Frankfurt, adult and young.

2. OREAS, Desm.; *Boselaphus*, sp. Blainv., Gray; *Damalis (Boselaphus)*, sp. H. Smith; *Damalis*, Sundev.

Horns large, erect, slightly curved, with a spiral keel; throat with a longitudinal, crested dewlap; hoofs narrowed in front. Female with smaller, thinner horns.

I formerly adopted the name of *Boselaphus*, which Blainville had used for the genus, but Ray had previously applied this name to the *Bubale*, and Desmarest has formed a subgenus specially for it under the name of *Oreas*.

1. OREAS CANNA. The IMPOOFO or ELAND.

Pale brown; throat and beneath whitish.

*Antelope Oreas*, Pallas.—*Damalis (Boselaphus) Oreas*, H. Smith, G. A. K. t. 200.—*A. Oryx*, Pallas, Misc. 9.—*D. Boselaphus Canna*, H. Smith, G. A. K. t. 181. f. 5, horn ♂.—*Oreas Canna*, Gray, Knows. Menag. 27. t. 26, 27.—*Coudou*, Buffon, H. N. xii. t. 46 b.—*Canna*, Buffon, Supp. iii. t. 12.—*Eland*, Kolbe, Sparmann, K. Vet. Handl. 1779, t. 8; Harris, W. A. A. t. 6; Daniel, Afr. Scen. t. .

Inhabits S. Africa; Cape of Good Hope (*Sparmann*). Brit. Mus.

This Antelope has much the character of the Oxen, and Dr. Burchell informs me that it is the best food of any of the genus at the Cape, being the only one which is moist and has any fat intermixed with the muscle; the flesh of the others is dry and hard. At Knowsley it breeds with the facility of domestic cattle, but they are ravenous feeders, and appear liable to an epidemic.

It should be remarked that the skin of the specimen shot by Burke



at the Cape (the female especially) shows several pale whitish cross-bands on the hinder half of the body, similar to the streaks on the *Koodoo*, showing the affinity of this animal to that species; but I could not observe these bands in the living specimens at Knowsley Park.

## 2. OREAS DERBIANUS. The GING-E-JONGA.

Pale reddish brown; front of the face, the neck, the front part of the under side, a spot on the front and hinder side of the upper part of the fore-leg, the dorsal streak, dark black; the belly, the front and back edge of the upper part of the legs and under side of tail whitish; a broad half-collar in front of the shoulder, narrowed above; fourteen or fifteen narrow, waved, perpendicular streaks on each side of the body white; withers with intermixed black hairs: female, throat dark brown; crown reddish brown.

*Boselaphus Derbianus*, Gray, Ann. and Mag. N. Hist. xx. 286; Silliman's Amer. Journ. v. 279.—*Oreas Derbianus*, Gray, Knowsley Menag. 27. t. 25.

Inhabits W. Africa; river Casaman. Called *Ging-e-jonga*. Mr. Whitfield. Brit. Mus. Imperfect skin of male and female, and horns.

B. *The nose bovine, with a large coriaceous moist muffle, and a narrow bald space on the upper lip. The animals have very slender, elegant legs; small hoofs and false hoofs; conical, subangular horns; with an oblique, indistinct keel.*

## 3. TRAGELAPHUS; *Antilope (Tragelaphus)*, Blainv., H. Smith.

Horns conical, subangular; tear-bag distinct; nape and back with a more or less distinct mane: they are brown; with spots on haunches, crescent on chest, and inside of legs white, and a dark dorsal stripe.

\* *Face with a curved band between the eyes; horns large; back cross-banded. Euryceros.*

### 1. TRAGELAPHUS EURYCEROS. The EURYCEROS.

Head pale brown; broad band before the eyes, and two large spots on cheeks, chin and front of upper lip white; horns elongate, thick, scarcely bent forward at the tip; throat with long black hairs.

*Antilope Euryceros*, Ogilby, P. Z. S. 1836, 120.—*A.*, n. sp., Afzelius, N. Act. Upsal. vii. 269. t. 8. f. 3; H. Smith, G. A. K. v. 361.—*Tragelaphus Euryceros*, Gray, Knows. Menag. 27. t. 23. f. 1, horns. Inhabits W. Africa. Horns in Brit. Mus. and Zool. Soc.

### 2. TRAGELAPHUS ANGASII. The INYALA.

Black; back with a dorsal streak and four or five bands on each side; head blackish; narrow band before eyes, two small spots on cheeks, front of upper lip and chin white; forehead and feet bay; throat with a mane of long rigid blackish hair; horns rather slender, elongate, rather bent forward at the tip; female bay, with many white bands.



*Tragelaphus Angasii*, Gray, P. Z. S. 1848, 89. t. 4 & 5, male, female and young; Knows. Menag. 27.

Inhabits S. Africa; Port Natal. Brit. Mus. male, imperfect skin.

\*\* *Face without any frontal streak; horns small.*

† *Back with transverse white stripes.*

### 3. TRAGELAPHUS SCRIPTUS. The ZALOFES or HARNESS ANTELOPE.

Pale bay; back with four cross-bands and a central white streak; haunches white spotted; cheek with two white spots; spot on chest, nose, feet, and spots on the legs blackish; dorsal streak and end of tail black. Adult: chest and outside of shoulder and haunches and legs black: the male with a high ridge of long, coarse white hair extending the whole length of the back to the tail.

*Antelope scripta*, Pallas, Misc. 8.—*Antelope (Tragelaphus) scripta*, H. Smith.—*A. maculata*, Thunb.—*A. (Tragelaphus) Phalerata*, H. Smith.—*Tragelaphus scripta*, Gray, Knows. Menag. 28. t. 28.—*The Harness Antelope*, Pennant, Syn. 27.—*Guib*, Buffon, H. N. xii. 305, 307. t. 40. t. 41. f. 1; F. Cuv. Mamm. Lithog. t. ; Dict. Sci. Nat. t. .

Inhabits W. Africa; Senegal and Gambia. Called *Oualofes* or *Zalofes*.

The dark colour of the chest and outside of the limbs, and the high crest of the male, are not developed until they are four or more years old.

This species varies in some having seven and others nine white cross-bands, and some are spotted and others not; but they breed together, and the produce is often a different variety from the parent.

They breed constantly at Knowsley: in May 1845 they had a small herd of two males and four females, three of which were expected to bear young.

### 4. TRAGELAPHUS DECULA. The DECULA.

Grey brown; back with three or four indistinct cross-bands; an arched streak on upper part of side, a few spots forming an arch on the haunches; dorsal line, streak on nose, and in front of fore-legs blackish.

*Antelope Decula*, Rüppell, Abyss. t. 4.—*Tragelaphus Decula*, Gray, Knows. Menag. 28.

*Var.* Back without the cross-bands.

Inhabits Africa; Abyssinia (*Rüppell*).

†† *Back without any cross-bands or lateral streak.*

### 5. TRAGELAPHUS SYLVATICUS. The BOSCH BOE.

Blackish brown; head pale brown; back, across forehead, black; small spot on haunches, larger spot on insides of legs and on feet white; dorsal line longly crested, black, white varied in. Female paler brown. Young: pale bay.

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*Antelope sylvatica*, Sparmann, Act. Holm. iii. t. 7.—*Tragelaphus sylvatica*, Harris, W. A. A. t. 26; Gray, Knowsley Menag. 28.—*Forest Antelope*, Pennant.

Inhabits S. Africa; Cape of Good Hope. Brit. Mus.

Var.? Smaller horns, rather more erect.

*Antelope Ronleynei* (the *Serolomoot broque*), Ronaleyn; G. Cumming, Hunter's Life S. A. ii. 178, 179.

Inhabits Limpopo.

The two pairs of horns, named by Colonel H. Smith *Boselaphus canna* (*a*, *b*, in the List of Mamm. Brit. Mus. 155); one, presented by Dr. W. Burchell, is certainly the horns of this species, and the other appear to be those of a young male, *Strepsiceros Kudu*.

The ASIATIC STREPSICERES have a bovine nose, with a large coriaceous moist muffle extending over the whole front of the upper lip; small, short, angular horns; a deep longitudinal tear-bag; and the hind-legs much shorter than the fore-ones; the skull without any suborbital pit, and only a minute fissure; and with supplementary lobes to the grinders.

#### 4. PORTAX; *Oreas*, sp. Fischer; *Tragelaphus*, Ogilby; *Damalis* (*Portax*), H. Smith.

Horns short, conical, angular, with an obscure oblique ridge; tear-bag deep, longitudinal; shoulders higher than the rump.

##### 1. PORTAX TRAGOCAMELUS. The NYLGHAU.

Grey; under surface, rhombic spot on the forehead and above the hoofs black and white ringed; tail, end black. Female browner. Young: dull reddish fawn; lower part of fore-legs brighter; under lip, spot on jaws, and line along belly on inside of legs and fore-part of hock, white; tip of tail, line on back of nose and on front of legs black.

*Antelope Trago-camelus*, Pallas, Misc. 5.—*A. picta*, Pallas, Spicil. xiii. 54; Gray, Cat. B. M.—*A. albipes*, Erxl. 280.—*A. leucopus*, Zimm. Zool. 541.—*Damalis* (*Portax*) *Risia*, H. Smith.—*Portax picta*, Gray, Cat. B. M.—*P. Tragocamelus*, Gray, Knows. Menag. 28. t. 29.—*Tragelaphus Hippelaphus*, Ogilby.—*P. Tragelaphus*, Sundev.—*Biggel*, Mandelst. Reise (1658), p. 122.—*Tragelaphus Caii*, Raii Syn. 82?; Parsons, Phil. Trans. No. 476. p. 465. t. 3. f. 9.—*Nylghau*, Hunter, Phil. Trans. lxi. 170. t. 5.—*Nilghaut*, Buffon, H. N. Supp. v. t. 10, 11; F. Cuv. Mamm. Lithog. t. —*Indostan Antelope*, Penn. Syn. 29.—*White-footed Antelope*, Penn. Syn. 29. t. 6. f. 1, 2.

Inhabits India. The *Roou* of the Mahrattas, the *Nylghau* of the Persians.

This species has bred at Knowsley. In December 1845 they had two calves, both females, making a flock of one male and four females: they are in the paddock with the *Eland* in summer. They have also bred in the Gardens of the Zoological Society (See *P. Z. S.* 1831, 37), and in the Menagerie of Sir Robert Heron at Shibton.



2. A MONOGRAPH OF SCARABUS, A GENUS OF AIR-BREATHING GASTEROPODOUS MOLLUSCA; FROM SPECIMENS IN THE CUMINGIAN COLLECTION. BY ARTHUR ADAMS, R.N., F.L.S. ETC.

SCARABUS, Montfort.

*Testa ovata, spira subobtusa, anfractibus compressis, varice utrinque instructis; apertura ovali intus utrinque dentata; peristomate non continuo, labro simplici, subexpanso.*

The *Scarabi* have the eyes sessile on the inner bases of the tentacles, which are short and annulated; they live like most of the other genera of *Auriculidæ*, in the damp woods and mangrove marshes. None have been found in the African or American regions, but all the species at present known are from the East Indies.

SCARABUS IMBRIUM, Montfort, Conch. Syst. vol. i.; Férussac, Prodrome, p. 101; Chemnitz, Conch. vol. ix. pl. 136. fig. 1249 & 1250.

*Helix scarabæus*, Linn.—*Helix pythia*, Müller.—*Bulimus scarabæus*, Bruguière.—*Auricula scarabæus*, Lamarck.

*S. testâ ovato-pyramidali, rufo-fusco variegatâ, longitudinaliter valdè striatâ; spirâ acuminatâ; aperturâ subrotundatâ, spiram æquante; labro posticè inflexo.*

Shell ovately pyramidal, variegated with red-brown, longitudinally strongly striated, spire acuminate; aperture subrotundate, as long as the spire; outer lip posteriorly inflexed.

*Hab.* Island of Bohol, Philippines; in dry woods, under stones, and in earth; *H. C.* (Mus. Cuming.)

The large size, pyramidal form and strongly striated epidermis are peculiar to this species: the upper tooth on the inner lip is more triangular, and the posterior part of the outer lip is more inflexed than in *S. Lessoni*.

SCARABUS LESSONI, Blainville, Dict. Sci. Nat. pl. 48. fig. 32; Lesson, Voy. de la Coquille, vol. ii. p. 334. pl. 10. fig. 4.

*Auricula Petiveriana*, var. *Deshayes*.

*S. testâ ovatâ, longitudinaliter substriatâ, rufo-castaneo variegatâ; spirâ lateribus concavis; aperturâ oblongâ, spirâ longiore; labio subplano, labro posticè arcuato.*

Shell ovate, longitudinally substriated, variegated with chestnut-red; spire with the sides convex; inner lip rather flattened, outer lip posteriorly arcuated.

*Hab.* New Ireland; *Hinds*. (Mus. Cuming.)

The oval form and oblong mouth render this species easily distinguished from *S. imbricum*: the upper tooth on the inner lip is longer, and two of the five teeth in the outer lip are more prominent than the others.



SCARABUS PETIVERIANUS, Férussac, Prodrôme, p. 101 ; Petiver, Gazophylacia Naturæ, pl. 4. fig. 10.

Cochlea Bengalensis, Petiver.—Auricula Peteveriana, Desh.

*S. testâ ovato-oblongâ, læviusculâ, longitudinaliter tenuissimè striatâ, albidâ castaneo variegatâ ; aperturâ spiram æquante ; labro arcuato.*

Shell ovately oblong, rather smooth, longitudinally very finely striated, whitish, variegated with chestnut-brown ; aperture as long as the spire ; outer lip arcuated.

*Hab.* Borneo ; Cagayan, province of Misamis ; Mindanao ; in damp woods, under decayed leaves ; *H. C.* (Mus. Cuming.)

This species is characterized by its smaller size, more ovate form, smoother epidermis, the arcuated outer lip, and rotundate aperture.

SCARABUS TRIGONUS, Troschel, Wiegmann's Archiv, 1840.

*S. testâ triangulari, rufo-fusco marmoratâ, anfractu ultimo transverso gibbo angulato, aperturâ angustatâ, labro valdè reflexo.*

Shell triangular, marbled with red-brown, last whorl transverse, gibbous, angulated ; aperture narrowed ; outer lip greatly reflected.

*Hab.* Sarsogon ; Luzon ; dense woods, damp places ; *H. C.* (Mus. Cuming.)

The triangular form, approaching that of *Tomogerus*, at once distinguishes this species : the middle tooth on the inner lip is double, the upper tooth prominent : there are five teeth in the outer lip, two being more prominent than the others.

SCARABUS PLICATUS, Férussac, Prodrôme, p. 101 ; Chemn. Conch. vol. ix. pl. 136. fig. 1252, 1253.

*Helix scarabæus, var. Chemn.*—Auricula plicata, Deshayes.—*Scarabus triangularis, Benson.*

*S. testâ subtriangulari, obliquâ, gibbosâ, spirâ brevi, acuminatâ, lateribus concavis, anfractu ultimo posticè gibboso anticè subangulato distorto, epidermide longitudinaliter obliquè striatâ, castaneâ, fasciis pallidis confusè ornatâ ; aperturâ angustâ, labio anticè flexuoso, labro arcuato, anticè valdè dilatatâ, reflexâ, rimâ umbilicali longâ transversâ.*

Ashy or chestnut-brown, with pale, rather indistinct bands ; much larger and more triangular than *S. Borneensis*, with the outer lip regularly arcuated.

*Hab.* India ; *Benson.* Jaffna, in saline marshes ; *Dr. Gardner.* (Mus. Cuming.)

SCARABUS STRIATUS, Reeve, Ann. & Mag. Nat. Hist. 1842, vol. ix. p. 220. fig. 9.

Auricula scarabæus, Quoy, Voy. de l'Astrolabe, Zool. vol. ii. p. 162. pl. 13. f. 24.

*S. testâ ovato-trigonalis, fusco variegatâ, longitudinaliter valdè striatâ ; spirâ acuminatâ ; labio antico subflexuoso.*



Shell ovately trigonal, variegated with brown, longitudinally strongly striated; spire acuminate; inner lip anteriorly subflexuose.

*Hab.* San Nicholas, island of Zebu; *H. C.* (Mus. Cuming.)

The sharp-pointed spire, striated epidermis and flexuous inner lip, distinguish this form: in the outer lip two of the teeth are more prominent than the others, the intermediate ones being more or less divided or bifid.

SCARABUS CECILLII, Philippi, Zeitsch. für Malacol. 1847, August.

*S. testá ovato-oblongá, læviusculá, tenuissimè in longum rugatá, corned; anfractu ultimo interdum castaneo, superius corneo bifasciato; epidermide lineis obscuris ziczac-formibus, punctisque, marmoratá.*

Shell ovately oblong, rather smooth, longitudinally very finely rugose, horn-coloured, last whorl chestnut-coloured, with two horn-coloured bands superiorly; epidermis ornamented with zigzag reticulated lines and punctures.

*Hab.* China. (Mus. Cuming.)

The reticulated epidermis, narrow ovoid form, and angulated outer lip are peculiar to this species; the aperture is oblong, equal to the spire; the outer lip below the angle is rectilinear, and but three teeth are visible in the outer lip.

SCARABUS UNDATUS, Lesson, Voy. de la Coquille, Zool. vol. ii. p. 336. pl. 10. f. 6.

*Auricula scarabæus, var. Desh.*

*S. testá ovatá, fuscá, longitudinaliter valdè striatá; striis undulatis subdecussantibus; anfractu ultimo posticè gibboso; labio arcuato, valdè reflexo.*

Shell ovate, fuscous, longitudinally strongly striated; striæ undulated, posteriorly decussating; last whorl posteriorly gibbous; outer lip arcuated, greatly reflected.

*Hab.* —? (Mus. Cuming.)

The waved elevated lines which cross each other irregularly on the back, and the last whorl posteriorly tumid, will characterize this species: the upper tooth is large and elongated on the inner lip, and the lower tooth of the outer lip is rather lamelliform.

SCARABUS PYRAMIDATUS, Reeve, Ann. & Mag. Nat. Hist. 1842, vol. ix. p. 221. fig. 12.

*S. testá ovato-pyramidalí, pallidá, aurantio-fusco variegatá, longitudinaliter substriatá; aperturá aureá, labio circulari.*

Shell ovately pyramidal, pallid, variegated with orange-brown, longitudinally somewhat striated; aperture golden orange, outer lip circular.

*Hab.* New Ireland; *Hinds.* Solomon's Islands; *Capt. d'Orville.* (Mus. Cuming.)

The pyramidal form, golden aperture, and light yellow-brown markings distinguish this species, though some specimens are much more ovate than others: the peritreme is double and thickened, the middle



tooth of the inner lip is simple and thickened, and in the outer lip two of the teeth are large and conspicuous.

SCARABUS CUMINGIANUS, Petit.

*S. testá ovato-trigoná, fuscá, longitudinaliter substriatá; anfractu ultimo valdè varicoso; aperturá aeratá, labio calloso, labro valdè posticè sinuato.*

Shell ovately trigonal, brown, longitudinally substriated; last whorl strongly varicose; aperture copper-coloured; inner lip callous, outer lip posteriorly sinuated.

*Hab.* Boljoon, island of Zebu, Philippines; in earth, among decayed coral in the woods. (Mus. Cuming.)

The upper tooth on the inner lip is thickened with a calcareous deposit; the middle tooth is prominent, with a callosity at the lower part: on the outer lip three of the teeth are very prominent, the others are obsolete; the varix on the last whorl is very prominent; the umbilical fissure is wide and deep.

SCARABUS LEKITHOSTOMA, Reeve, Ann. & Mag. Nat. Hist. 1842, vol. ix. p. 220. fig. 6.

*S. testá ovatá, imperforatá, solidá, fusco variegatá; aperturá aurantiacá, labio incrassato, labro duplicato, posticè subsinuato.*

Shell ovate, imperforate, solid, variegated with brown; aperture golden orange; inner lip callous, thickened, outer lip double, posteriorly somewhat sinuated.

*Hab.* — ? (Mus. Cuming.)

The middle tooth of the inner lip is double; in the outer lip there are three prominent teeth, the two posterior being approximated; there is no umbilicus, and the spire is concave at the sides; the back, moreover, is strongly plicated near the sutures.

SCARABUS CASTANEUS, Lesson, Voy. de la Coquille, Zool. p. 336. pl. 10. fig. 7.

*S. testá oblongá, ovato-pyramidalis, læviusculá, longitudinaliter substriatá, castaneá; spirá elevatá, acuminatá; aperturá oblongá, spiram æquante, labro semicirculari.*

Shell oblong, ovately pyramidal, rather smooth, longitudinally substriated, chestnut-brown; spire elevated, acuminate; aperture oblong, as long as the spire, outer lip semicircular.

*Hab.* Sibonga, island of Zebu, in the woods; *H. C.* (Mus. Cuming.)

This is a smooth, oblong shell, with a regularly arched outer lip with four teeth within it, two of which are much larger than the others.

SCARABUS POLLEX, Hinds, Zool. Voy. Sulphur, Moll. p. . pl. 16. fig. 9, 10.

*S. testá ovatá, compressá, fusco-castaneá, longitrorsum valdè striatá, anfractu ultimo confusè fasciato.*

Shell ovate, compressed, chestnut-brown, longitudinally strongly striated, last whorl indistinctly banded.

*Hab.* Feejee Islands; *Hinds.* (Mus. Cuming.)



Distinguished from *S. Lessoni* by its coarsely striated surface and different markings; and from *S. castaneus* by its larger size and darker colour, in being more striated, and by two dark yellowish bands on the upper part of the last whorl.

**SCARABUS SEMISULCATUS**, A. Adams. *S. testá ovato-pyramidalí, læviusculá, rufo-castanéá, longitudinaliter vix striatá, anfractibus convexiusculis semisulcatis, fasciá nigricante prope suturam; aperturá subrotundatá; labio crasso, anticè rotundatá, dilatatá; labro semicirculari, posticè subsinuato.*

Shell ovately pyramidal, smooth, reddish dark chestnut colour, longitudinally slightly striated; whorls rather convex, semisulcated, with a blackish band near the sutures; aperture rather round; inner lip thickened, anteriorly rounded and dilated; outer lip semicircular, posteriorly somewhat sinuated.

*Hab.* —? (Mus. Cuming.)

A pyramidal, smooth, dark-brown shell, with the whorls strongly sulcated longitudinally near the sutures; two of the teeth in the outer lip are much larger than the others, and the inner lip is rounded and thickened in front; the umbilicus is large and deep.

**SCARABUS SINUOSUS**, Adams. *S. testá ovato-oblongá, flavescenti nigro-fusco maculatá; epidermide tenuissimè longitudinaliter substriatá; spirá obtusá, lateribus convexis; aperturá oblongá; labio anticè rotundato, reflexo; labro posticè valdè sinuoso, in medio inflexo, peritremate incrassato.*

Shell ovately oblong, yellowish, spotted with blackish brown; epidermis very finely longitudinally substriated; spire obtuse, the sides convex; aperture oblong; inner lip anteriorly rounded, reflexed; outer lip posteriorly strongly sinuated, inflexed in the middle, peritreme thickened.

*Hab.* Island of Negros, Philippines. (Mus. Cuming.)

The posterior tooth of the inner lip is elongated, the middle tooth double; in the outer lip three of the teeth are prominent, the two posterior being approximated; the umbilicus is partly closed by the reflection of the inner lip.

**SCARABUS IMPERFORATUS**, A. Adams. *S. testá ovatá, compressá, imperforatá; spirá brevi, acuminatá, lateribus concavis, læviusculá, longitudinaliter tenuissimè substriatá, lutescenti fusco-castaneo variegatá, anfractu ultimo posticè subangulato; aperturá oblongá; labio anticè excavato, reflexo, labro semicirculari.*

Shell ovate, compressed, imperforate; spire short, acute, sides concave, rather smooth, longitudinally very finely substriated, yellowish, variegated with light chestnut, last whorl somewhat angulated posteriorly; aperture oblong; inner lip anteriorly flattened, excavated, reflexed; outer lip semicircular, umbilicus closed.

*Hab.* Borneo. (Mus. Cuming.)

The last whorl is posteriorly gibbous; the umbilicus is closed by the inner lip; three of the teeth in the outer lip are prominent, the two posterior approximated.



SCARABUS PANTHERINUS, A. Adams. *S. testá ovato-pyramidalí, tenui, læviusculá, longitudinaliter substriatá, lutescenti, maculis rufo-fuscis ornatá; spirá acuminatá, lateribus convexis; aperturá oblongá, labio anticè rotundato, reflexo, labro semicirculari.*

Shell ovately pyramidal, thin, rather smooth, longitudinally substriated, yellowish, ornamented with red-brown spots; spire acuminate, the sides convex; aperture oblong, inner lip anteriorly rounded and dilated, outer lip semicircular.

*Hab.* Siquejor; Philippines, woods, under stones. (Mus. Cuming.)

The aperture is yellowish white; three of the teeth in the outer lip are more prominent than the others, the intermediate ones being sometimes double; the umbilicus is large and deep.

SCARABUS BORNEENSIS, A. Adams. *S. testá ovato-pyramidalí, luteo-fusculá, castaneo confusè fasciatá, læviusculá; epidermide tenuissimè, longitudinaliter striatá; aperturá oblongá, angustá, spiram subæquante, anfractu ultimo infernè subangulato; foveá umbilicali angustá, transversá.*

Shell ovately pyramidal, yellowish brown, obscurely transversely banded, rather smooth, very finely longitudinally striated; aperture oblong, narrow, nearly as long as the spire, last whorl inferiorly subangulated; umbilical fissure narrow, transverse.

*Hab.* Borneo; Lieut. Taylor. (Mus. Cuming.)

This species is narrower and more ovate than *S. plicatus*, of a much smaller size; the outer lip is rectilinear in the middle; the teeth of the outer lip are connected by an elevated ridge, and three of the teeth are more prominent than the others.

SCARABUS CHALCOSTOMUS, A. Adams. *S. testá ovato-pyramidalí, spirá elevatá, acutá, longitudinaliter substriatá, pallide luteá, rufo-fusculá variegatá; aperturá ovali, æneá; labio anticè subrecto; labro semicirculari; umbilico patulo.*

Shell ovately pyramidal, spire elevated, sharp, longitudinally substriated, pale yellow varied with reddish brown; aperture oval, brassy; inner lip anteriorly rather straight, outer lip semicircular; umbilicus open.

*Hab.* Solomon's Islands; Capt. D'Orville. (Mus. Cuming.)

In general appearance this species resembles *S. pyramidatus*, but it is more oval, larger, lighter, with the middle tooth on the inner lip double, and the lower tooth broad and ascending; two of the teeth in the outer lip are very large and tubercular.

### 3. A MONOGRAPH OF PHOS, A GENUS OF GASTEROPODOUS MOLLUSCA. BY ARTHUR ADAMS, F.L.S., R.N.

PHOS, Montfort.

Shell ovately fusiform, spire acuminate, whorls longitudinally ribbed and cancellated; columella with a single anterior plait; outer lip notched in front, striated within. The animal has a small head;



the tentacles connate at the base, with the eyes near their distal third; the foot is dilated in front, forming an elevated shield, acutely auriculate on each side, pointed behind, and ending in a single long filament. Operculum small, horny, and unguiform. In three species of this genus in which I have observed the animal, namely *Phos senticosus*, *roseatus*, and *Blainvillii*, the hind part of the foot terminated in a single median filament, and not, as in *Nassa*, in a bifurcate tail.

1. PHOS SENTICOSUS, Linn. sp.; List. Pl. 967. fig. 22.  
*Buccinum senticosum*, Linn.  
*Phos senticosus*, Montfort.  
*Hab.* Philippine Islands; *H. C.*
2. PHOS BLAINVILLII, Desh. Chemn. pl. 125. f. 1201, 1202.  
 Kiener, Mon. Buccinum, pl. 11. f. 38.  
*Buccinum pyrostoma*, Reeve.  
*Hab.* Philippine Islands; *H. C.*
3. PHOS CUMINGII, Reeve, Elements of Conchology, pl. 3. fig. 16.  
*Hab.* —?
4. PHOS CRASSUS, Hinds, Zool. Voy. Sulphur, Moll. p. 37. pl. 10. f. 1, 2.  
*Hab.* Panama, Gulf of Fonseca.
5. PHOS VIRGATUS, Hinds, *l. c.* p. 37. pl. 10. fig. 11, 12.  
*Hab.* Ceylon.
6. PHOS RETECOSUS, Hinds, *l. c.* p. 37. pl. 10. fig. 3, 4.  
*Hab.* Ceylon.
7. PHOS VERAGUENSIS, Hinds, *l. c.* p. 37. pl. 10. fig. 13, 14.  
*Hab.* Pueblo Nueva, west coast of Veragua.
8. PHOS ARTICULATUS, Hinds, *l. c.* p. 38. pl. 10. fig. 7, 8.  
*Hab.* Panama.
9. PHOS ROSEATUS, Hinds, *l. c.* p. 38. pl. 10. fig. 9, 10.  
*Hab.* North coast of Sumatra.
10. PHOS GAUDENS, Hinds, *l. c.* p. 38. pl. 10. fig. 5, 6.  
*Hab.* Gulf of Tehuantepec, west coast of Mexico.
11. PHOS CANCELLATUS, A. Adams. *P. testá ovato-fusiformi, albidá, obsoletè fusco fasciatá; anfractibus subrotundatis, lineis elevatis longitudinalibus et transversis, valdè cancellatis, cancellis ad angulos acutè nodosis; aperturá intus fuscátá, anticè tuberculátá, plicá validá.*  
*Hab.* —?

This species resembles *P. veraguensis*; but the areas between the cancelli are simple, whereas in *P. veraguensis* there is an intermediate, elevated line, crossing them, a circumstance not mentioned in the description of Mr. Hinds.