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WHITE IN BRITISH EAST AFRICA

WITH TWO PLATES

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Mr. John Jay White, of Washington, D. C., has presented to the United States National Museum a number of large mammals collected by himself in British East Africa during the summer of 1908. Several of the specimens are of special interest, and the collection as a whole is of considerable importance.

On May 8, 1908, in company with Dr. W. S. Rainsford, Mr. White left Nairobi for Nakuru, at which point the party left the railroad on the following day and traveled northward, by way of Ravine Station, to Sirgoit Rock, where they arrived May 21. From this date until the first of July the time was spent in hunting over the Guas Ngishu Plateau. July 8 they arrived at Ravine on the return, and traveled east and north for the Laikipia Plateau. About six weeks were spent in hunting over the region to the north of Laikipia Boma and Mount Kenia, and, on the return to the railroad, three days—September 6 to 8—were devoted to the game on the Elmenteita Plains. September 18 the party again left Nairobi, and another month was spent on the Guas Ngishu Plateau.

Mr. White has furnished some interesting information about many of the species. The substance of this is included, throughout the list, after the technical notes on the specimens.

GIRAFFA CAMELOPARDALIS ROTHSCILDI Lydekker

Body skin and mounted head of an adult male (No. 155438) from the Guas Ngishu Plateau, June 22. This specimen is a topotype and therefore of special value to the Museum. The mizzen horns are only slightly developed.

This animal was almost a record specimen for the form. Measured rather hurriedly in the rain, without the front legs fully stretched, it exceeded seventeen and a half feet in height. The dry skin measured twenty-one and one-half feet from tip of nose to end of tail, and exactly the same distance between the edges of the fore hoofs across the shoulders. Giraffes were found to be fairly plen-

tiful on the Guas Ngishu Plateau, and herds numbering up to a dozen or fifteen animals were frequently seen. One herd of about seventy-five was noted, but this group later divided, about twenty-five animals going in one direction and the remainder in another.

BUBALIS COKEI (Günther)

Skull and skin of head and neck of a large male, given to Mr. White by Dr. W. S. Rainsford. Probably killed on Dr. Rainsford's last trip to the Thika River region, northeast of Nairobi, in December, 1908.

The skull is a remarkable specimen in many ways, and differs from any in the large series before me from neighboring regions to the north and south. Compared with skulls of old males from Taveta, Kapiti Plains, and the Guaso Nyiro River, it differs in its greater length, greater breadth, relatively short distance from anterior end of premaxilla to first premolar, wide interpterygoid space, and small teeth. The horns are massive, wide spreading, and the first ascending section is much longer than in any other specimen. The terminal section is short, and the horn is therefore divided into almost equal thirds, the outward ascending, horizontal, and terminal parts being of equal length. The measurements of this skull (No. 155430) are: Condylbasal length, 410 millimeters; palatal length, 235; greatest breadth, 142; facial length, 405; muzzle to orbit, 302; upper tooth row, 88; length of horns, 390; circumference at base, 254; greatest spread, 430; spread at points, 395; length of backward terminal point, 120.

These animals were noted by Mr. White on the Laikipia Plateau, in the Elmenteita and Naivasha Lake country, and on the Athi and Kapita plains. None were seen on the Guas Ngishu Plateau.

BUBALIS JACKSONI Thomas

Skull and head skin of adult male from the Guas Ngishu Plateau, about June 15. This specimen, from only a short distance north of the type locality of *jacksoni*, agrees with the descriptions of that species, and the specimens in the Museum, in most particulars. The points of the horns, however, incline inward, after the style of *B. niedeckii*, from the White Nile region. Another specimen from the same locality, a mounted head in Mr. White's collection, has the horn tips nearly parallel, or but slightly turned outward; and others were killed, as shown in photographs taken by the party, in which the horns distinctly turned outward. This illustrates the instability

of such minor horn characters, as a large series would evidently show considerable variation in the angle of the terminal section of the horn.

The measurements of this skull (No. 155431) are: Condylbasal length, 426 millimeters; palatal length, 241; greatest breadth, 138; facial length, 438; muzzle to orbit, 312; upper tooth row, 100; length of horns, 553; circumference at base, 304; greatest spread, 250; spread at points, 112; length of smooth backward terminal section, 210.

The skin of the head is a rich red in color with a faint stripe of black down the back of the neck from between the ears to the point where it was severed from the body.

This hartebeest was very abundant on the Guas Ngishu Plateau, where hundreds were seen almost daily, in herds of from three or four up to fifty or more each. Many other animals, especially the zebra and topi, and sometimes the giraffe and eland, take advantage of the abundance of the kongoni and graze among the herds, apparently depending upon them to give the first alarm of approaching danger. The breeding season for many of the British East African ungulates appears to extend over the greater part of the year, and, in large herds of Jackson's kongoni, young of several ages, from small calves to nearly grown, were often seen.

CONNOCHÆTES TAURINUS ALBOJUBATUS Thomas

Skin of head and neck to withers. Killed by Dr. Rainsford on the Athi Plains, in December. Practically a topotype of *albojubatus*. The color represents the dark phase and is much darker than in any of six heads in the Museum collection from "Masailand," the yellowish-white throat fringe being especially conspicuous.

This animal was seen only in the Athi Plains country and apparently does not occur on the Laikipia or Guas Ngishu plateaus.

OREOTRAGUS OREOTRAGUS SCHILLINGSI (Neumann)

In the collection presented by Mr. White were the feet of one of these antelopes from the Laikipia Plateau. In his collection of trophies Mr. White has two heads of old bucks which differ greatly in color. One from Elmenteita has the head gray, with almost pure white markings, while the head from the Laikipia country is everywhere deeply suffused with an ochraceous color, giving a very different appearance to the animal.

Klipspringers were frequently seen on the Laikipia Plateau, usually in small groups of two or three individuals. At one time five were seen on the same hill, but this was probably a chance gathering of two lots. None were seen on the Guas Ngishu Plateau.

OUREBIA COTTONI Thomas

PLATE I, FIG. 1, SKULL

Three skulls and head skins from south of the Nzoia River, on the Guas Ngishu Plateau, June. These are practically topotypes of *cottoni*, described from Sirgoit Rock, and show the species to be very distinct from *O. kenyæ*, from the region northeast of Nairobi, though closely related to *O. montana*. From the latter it is, however, readily distinguished by the larger horns. The skins agree with the series examined by Thomas in the absence of a distinct dark frontal blaze. The skulls agree in all important measurements and characters with the description of the type. They measure:

	155415 Adult male.	155420 Young male	155421 Young male.
	mm.	mm.	mm.
Greatest length	168	165	163
Condylbasal length.....	157	155	154
Greatest breadth	75	73	73
Interorbital breadth	54	45	40
Muzzle to orbit.....	87	85	85
Upper tooth row.....	53	— ¹	— ¹
Length of horn.....	123	100	93

¹ Last molars not entirely in place.

OUREBIA MICRODON, new species

PLATE I, FIGS. 2, 3, SKULL

Type.—Skull of adult male, Cat. No. 155422, U. S. N. M., collected south of the Nzoia River on the Guas Ngishu Plateau, British East Africa, summer of 1908, by John Jay White.

Diagnostic characters.—Size large; rostrum long; teeth small; horns short, stout, and heavily ringed.

Color.—External characters unknown.

Skull and teeth.—Compared with skulls of *O. cottoni* the type skull of *O. microdon* is much larger, with longer rostrum, narrow interpterygoid fossa, and smaller teeth. Though the skull is larger, the teeth are actually smaller. The basioccipital is nearly square, with surface almost flat; very different from the deep-pitted, triangular basioccipital of *O. cottoni*. From *O. montana* it differs in

much larger size; horns stouter and heavily ringed; rostrum heavier; basioccipital square and flat. It may be distinguished from skulls of *O. kenyæ* by its larger size, longer rostrum and nasals, narrow interpterygoid fossa, square and flat basioccipital; and shorter, stouter, more heavily-ringed horns. The skull of *O. microdon* differs also from skulls of all the above-mentioned species in the straight line of the inner edge of the upper tooth row, which in all of these is decidedly concave. The palate, therefore, is almost oblong, and the distance across between the first premolars almost equals the distance across between the last molars.

Measurements.—See table below for measurements of the type skull.

Remarks.—As known from the skull alone this new oribi is very different from *O. cottoni*, inhabiting the same region. It appears to be more closely related to *O. kenyæ*, from the headwaters of the Tana River.

A comparison of measurements of skulls of adult males of the four species of *Ourebia* from the region is given in the following table:

	<i>O. microdon.</i> 155422	<i>O. cottoni.</i> 155415	<i>O. kenyæ.</i> 162857	<i>O. montana.</i> 112998
<i>Ourebia</i> skulls. Adult males.	Guas Ngishu Plateau. Type.	Guas Ngishu Plateau.	Near Nairobi.	120 mi. east of Lado.
	mm.	mm.	mm.	mm.
Greatest length	175	168	165	164
Condylbasal length	163	157	154	153
Basal length	152	146	143	144
Palatal length	98	94	88	89
Greatest breadth	77	75	75	74
Interorbital breadth	51	54	49	44
Muzzle to orbit.....	95	87	85	86
Length of nasals.....	60.5	61	51	58
Upper tooth row.....	48	53	49	50
Length of horn.....	108	123	115	102
Circumference of horn.....	55	50	47	47

KOBUS DEFASSA UGANDÆ (Neumann)

Skull and head skin of adult male, killed on the Guas Ngishu Plateau, south of the Nzoia River, summer of 1908. The specimen agrees with Neumann's description in its large size and colors, the bright rufous face contrasting decidedly with the paler color of the cheeks and neck.

Measurements of the skull (No. 155414) are: Greatest length, 420 millimeters; condylbasal length, 408; greatest breadth, 166;

nasals, 153; palatal length, 220; interorbital breadth, 123; upper tooth row, 114; muzzle to orbit, 246; length of horn, 692; circumference of horn at base, 249; distance between points, 420; greatest spread, 507. In this skull the premaxillæ fail to reach the nasal bones by a distance of ten millimeters.

CERVICAPRA REDUNCA WARDI Thomas

Skull and head skin of adult male from the Guas Ngishu Plateau, June. Measurements of skull (No. 155429): Greatest breadth, 103 millimeters; length of nasals, 92; interorbital breadth, 63; upper tooth row, 58; length of horn, 217; distance between points, 135.

The reedbuck was common on the Nzoia River; singles, pairs, and small herds of up to seven or eight animals were seen.

GAZELLA THOMSONI NASALIS Lonnberg

Three skulls of adult males, two of them accompanied by skins of head and neck to shoulders, from Elmenteita, September 7. The skins exhibit a very distinct black patch on the nose, and appear to represent the northern race. The skulls show no appreciable characters to separate them from skulls of typical *thomsoni* from the Kilimanjaro region. Measurements of skulls:

	155427	155428	155426
	mm.	mm.	mm.
Condylbasal length	198	196	183
Greatest breadth	84	88	85
Muzzle to orbit.....	101	105	98
Length of nasals.....	54	50	42
Interorbital breadth	49	55	50
Upper tooth row.....	54	55	57
Length of horn.....	300	315	281
Distance between points.....	100	86	104

Very abundant about Elmenteita. Comparatively few were seen on the Laikipia Plateau and none were found on the Guas Ngishu Plateau.

GAZELLA GRANTI GRANTI Brooke

Skulls and head skins of two adult males, killed on the Elmenteita Plains about September 7. Skull measurements are as follows:

	155424	155425
	mm.	mm.
Greatest length	115	114
Condylbasal length	264	261
Palatal length	134	132
Muzzle to orbit.....	141	137
Interorbital breadth	70	65
Upper tooth row.....	88	85
Length of horn.....	565	580
Distance between points.....	290	263

Grant's gazelles were quite plentiful at Elmenteita, though by no means so abundant as the Thomson's gazelles.

GAZELLA GRANTI NOTATA Thomas

Skull and head skin of adult male, shot near the upper waters of the Guaso Nyiro River, on the Laikipia Plateau, July 28.

The general color of the skin of head and neck is much darker than in specimens of *Gazella g. granti* from the Kilimanjaro region. The horns are very different, also, spreading but little at the points and with much less of the graceful gazelle curve of typical *granti*. There appear to be no constant cranial characters by which skulls without horns of the two forms can be separated. Measurements of the skull: Condylbasal length, 260 millimeters; palatal length, 129; greatest breadth, 111; muzzle to orbit, 138; interorbital breadth, 61; upper tooth row, 81; length of horn, 512; distance between points, 160.

This gazelle was seen by the expedition only on the Laikipia Plateau, where it was not especially plentiful.

ORYX ANNECTENS, new species

Type.—Skin, Cat. No. 155436, U. S. N. M., collected in the vicinity of the Guaso Nyiro River, Laikipia Plateau, British East Africa, about August 8, 1908, by John Jay White.

Diagnosis.—In general like *Oryx beisa*, but lateral stripe narrower and head markings somewhat approaching those of *O. callotis*; skull as in *O. beisa*, but molars conspicuously larger, their size nearly as in *O. callotis*.

Color.—The skin differs in color and markings from a Berbera, Somaliland, specimen and all plates and descriptions of the Abyssinian and Somaliland animals. The main body color is an ecru drab with a buffy tint and a decided vinaceous cast. The lateral stripes, which in *beisa* are broad bands about 30 mm. wide in the

middle and about 50 mm. wide near the posterior end, are reduced to narrow streaks from 8 mm. wide in the middle to 10 mm. wide near the posterior end. The stripe is nowhere pure blackish brown, as in *beisa*; but is everywhere mixed with hairs of the body color. In *beisa* the lateral stripe sharply divides the area of color of the side from the white of the belly. In the Laikipia animal the white below the stripe is suffused with the darker color of the side, the stripe really passing across the lower edge of the side color nearly an inch above the white of the belly, which gradually becomes purer below it, instead of being sharply defined. The dorsal stripe is also less distinct.

The markings of the head differ somewhat from a head of *beisa* also. The black stripe passing through the eye extends down and forward nearly to the corner of the mouth, and the face patch is broader at the lower end, the two black areas thus reaching within less than 25 mm. of each other, much after the pattern of coloration in *O. callotis*. In another example, a mounted head in Mr. White's collection, also from Laikipia, the eye stripe passes down to join the black throat stripe. This head, as well as another head skin, accompanied by the skull, presented to the Museum by Mr. White, agrees with the type skin in the general peculiar color.

Skull and teeth.—Skull as in *O. beisa*, but with much larger teeth; molars nearly as broad as long; lacrymal vacuities greater.

From a Taveta specimen of *O. callotis* the skull of this new species differs in many particulars. It is smaller and much narrower in front of orbits. Ends of premaxillæ square, very different from the tapering, pointed ends in *callotis*. Median palatal notch shallow, not reaching to plane of last molars. Upper tooth row much shorter, about equaling the length of last five teeth of *callotis*; molars about as broad as long. Lacrymal capsules much less inflated. Audital bullæ small and flattened; alisphenoids smaller.

Measurements.—The skull of an adult male (No. 155413) from the type locality measures: Condylbasal length, 356 millimeters; greatest breadth, 152; muzzle to orbit, 219; least interorbital breadth, 103; length of nasals, 142; upper tooth row, 105; length of horn, 685; spread at points, 210.

Remarks.—This new oryx apparently needs no special comparison with *O. b. gallarum*. From *O. callotis* it differs in its lack of ear tufts and the position of the parting of the hair on the back. These and other general characters place it in the *beisa* group. The skull differs so greatly from a skull of *O. callotis* that it would cer-

tainly seem that Lydekker¹ was in error when he considered *callotis* a subspecies of *beisa*.

This antelope was first seen soon after leaving Laikipia Boma. It was generally distributed over the Laikipia Plateau and was fairly abundant. Reported as especially plentiful about forty or fifty miles north of Mount Kenia.

TRAGELAPHUS DAMA Neumann

Complete skin of old buck. The tag was lost from this specimen, but it was almost surely killed on the upper Nzoia River. It agrees well with the description of *T. dama*, differing only in the lack of numerous white spots along the sides of the body. As it is well known that the white body spots on bushbucks tend to disappear in males with old age, this specimen can well be called *dama*. This skin has four faint body spots on each side, formed by only a few white hairs each, and a yellowish-white streak in front of each eye. These are about the only characters to distinguish it from the descriptions of *Tragelaphus sylvaticus meruensis* Lönnberg and *Tragelaphus tjaderi* Allen, between which I can find no appreciable difference. It would hardly seem that both of these latter forms are entitled to recognition.

Mr. White tells that the Kikuyu natives explain the presence of the peculiar short-haired collar in this group of bushbucks by a story to the effect that the Great Spirit ties the animals up each night.

BOÖCERUS EURYCERUS ISAACI Thomas

The collection contains two skins of the rare East African bongo. They were purchased from natives at Nairobi, and were supposedly killed in the vicinity of the Mau Escarpment. The skins differ greatly in color and are both quite unlike a mounted bongo in the Museum, also from East Africa.

No. 155435, skin of body, is of a bright, glossy hazel color, shading to dark chestnut and black on the shoulders and chest; a faint black dorsal stripe from withers to rump; twelve white vertical stripes on each side, all but one pair practically meeting on the dorsum; white spots on legs very large. A mounted head in Mr. White's private collection, presumably from this same individual, and which I have had the pleasure of examining, has the face and muzzle all around, from level of the eyes to near the lips and chin,

¹The Game Animals of Africa, p. 285, 1908.

blackish; forehead dark chestnut red; lips and chin white; eyes encircled with tawny; a broad white face stripe and the two white spots under the eyes greatly enlarged, the upper one twice as long as wide; throat blackish to within eight inches of the white crescent on the lower neck.

No. 155434, complete skin, is of a glossy chestnut bay; neck, chest, and lower sides black; a distinct black dorsal stripe from neck to rump, the hair forming a short, stiff mane to middle of back; eleven white stripes on right side, thirteen on left; face blackish; upper forehead dark chestnut; a broad, dark fawn stripe from eye to end of white streak across face; face streak greatly reduced and divided in center by a blackish chestnut stripe; cheek spots large and irregular in shape.

The mounted specimen in the Museum is of about the same general color tone as No. 155435, from which it differs in lack of blackish on the shoulders, neck, and chest, the body being entirely of the bright, glossy hazel color. This specimen has thirteen vertical stripes.

Thus we have three specimens of the bongo, all from British East Africa, and all differing widely from one another. Not knowing the exact locality in which each was killed, it is useless to speculate on the meaning of these great differences. It is hard to believe that the great variation between the pure hazel-colored specimen and the one with the maximum amount of black is explained by individual variation in the same forest.

TAUROTRAGUS ORYX PATTERSONIANUS Lydekker

Skin of adult male from the Guas Ngishu Plateau, May 17. Eland, which were greatly reduced in numbers in parts of British East Africa some years ago by the rinderpest, are slowly gaining in numbers. Several herds of from forty to sixty head were seen on the Guas Ngishu Plateau, and one herd of sixty or more animals was found in the Laikipia country.

EQUUS BURCHELLI GRANTI de Winton

Skin from the Guas Ngishu Plateau, about June 15.

Zebras were found in abundance both on the Guas Ngishu and Laikipia plateaus.

FELIS LEO SABAKIENSIS Lönnberg

Body skin and two skulls of adult males from the vicinity of Nairobi. These skulls differ greatly from Abyssinian specimens, and agree in general characters with specimens from the east coast. They differ from skulls of *massaicus* in all the minor particulars mentioned by Dr. Lönnberg, and represent his recently described race. A number of skins in Mr. White's possession vary considerably in color, and the older males show much reddish brown and black in the body color and mane, some being rather dark animals on the whole. The skins of females and young males show faint spotting below.

Measurements of the skulls:

	155442 mm.	155443 mm.
Greatest length	365	373
Zygomatic breadth	241	234
Length of nasals.....	122	118
Interorbital breadth	70	70
Alveolar diameter upper canine.....	27.5	26
Length of upper premolar row.....	77	79.5
Length of upper carnassial.....	38	39
Length of lower molar-premolar series.....	74	77
Length of lower carnassial.....	28.5	29

ERYTHROCEBUS WHITEI, new species

PLATE 2, SKULL

Type.—Skin and skull of adult male, Cat. No. 155340, U. S. N. M., collected on the Nzoia River, Guas Ngishu Plateau, British East Africa, September 30, 1908, by John Jay White.

Diagnostic characters.—Size large; hair of forward part of body long and shaggy, 175 mm. long at shoulders; back and shoulders grizzly cinnamon-rufous; black stripe from nose over eye and backward, forking to crown and ear; crown, rump, and dorsal stripe from middle of back to past root of tail dark, glossy bay; reddish of back extending down hind legs slightly more than half way to knee; fore arm creamy white.

Color of type.—Nose, lips, and cheek beard cream; a black stripe from nose between eyes, turning outward over eyes, back from corner of eye, and forking to crown and ear; crown patch dark chestnut bay; spot in front of ear, nape, and back grizzled cinnamon-rufous; the long hairs of back cinnamon-rufous at roots, shading to bright bay on terminal half, with sub-apical band of buff and tip

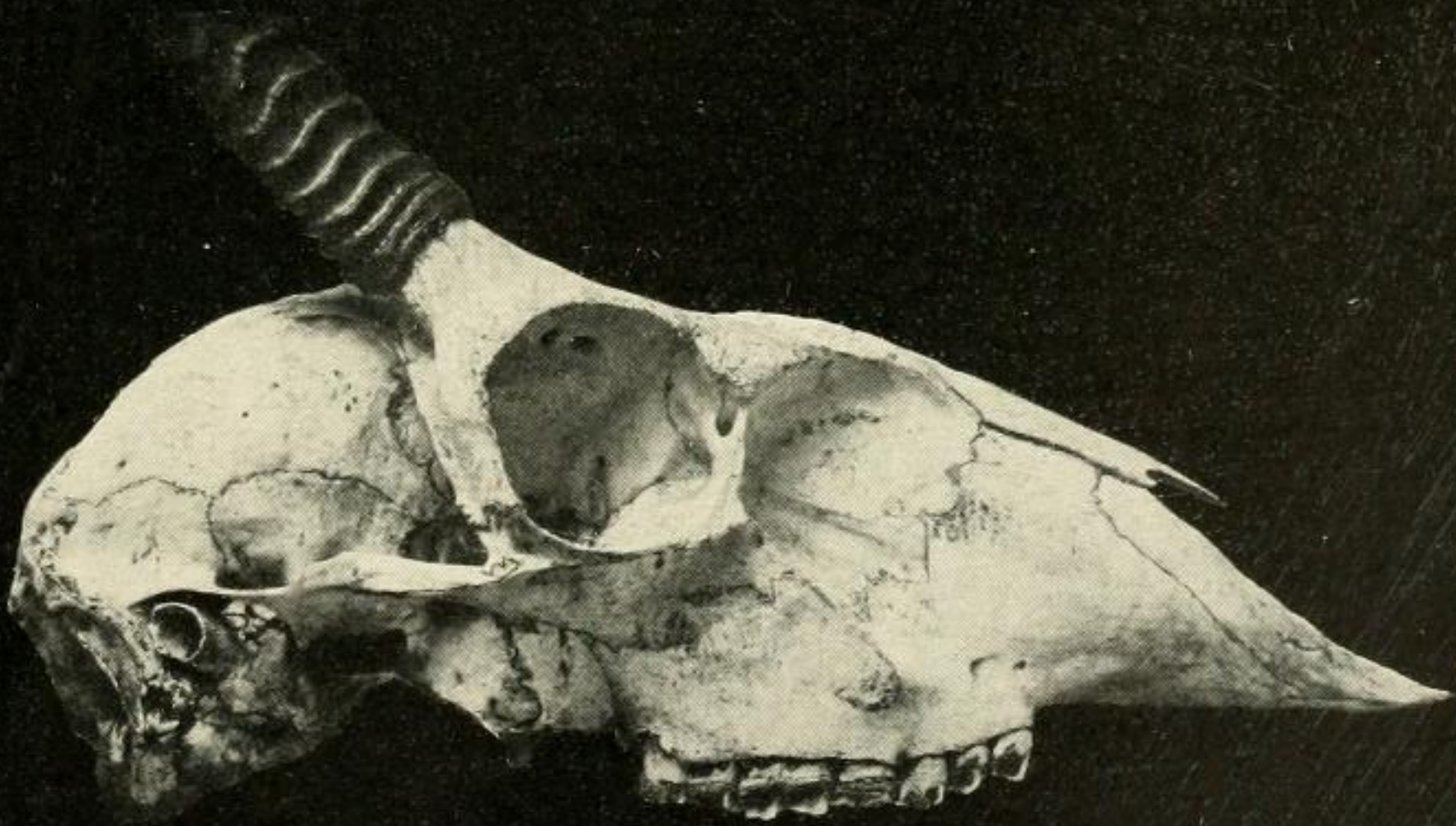
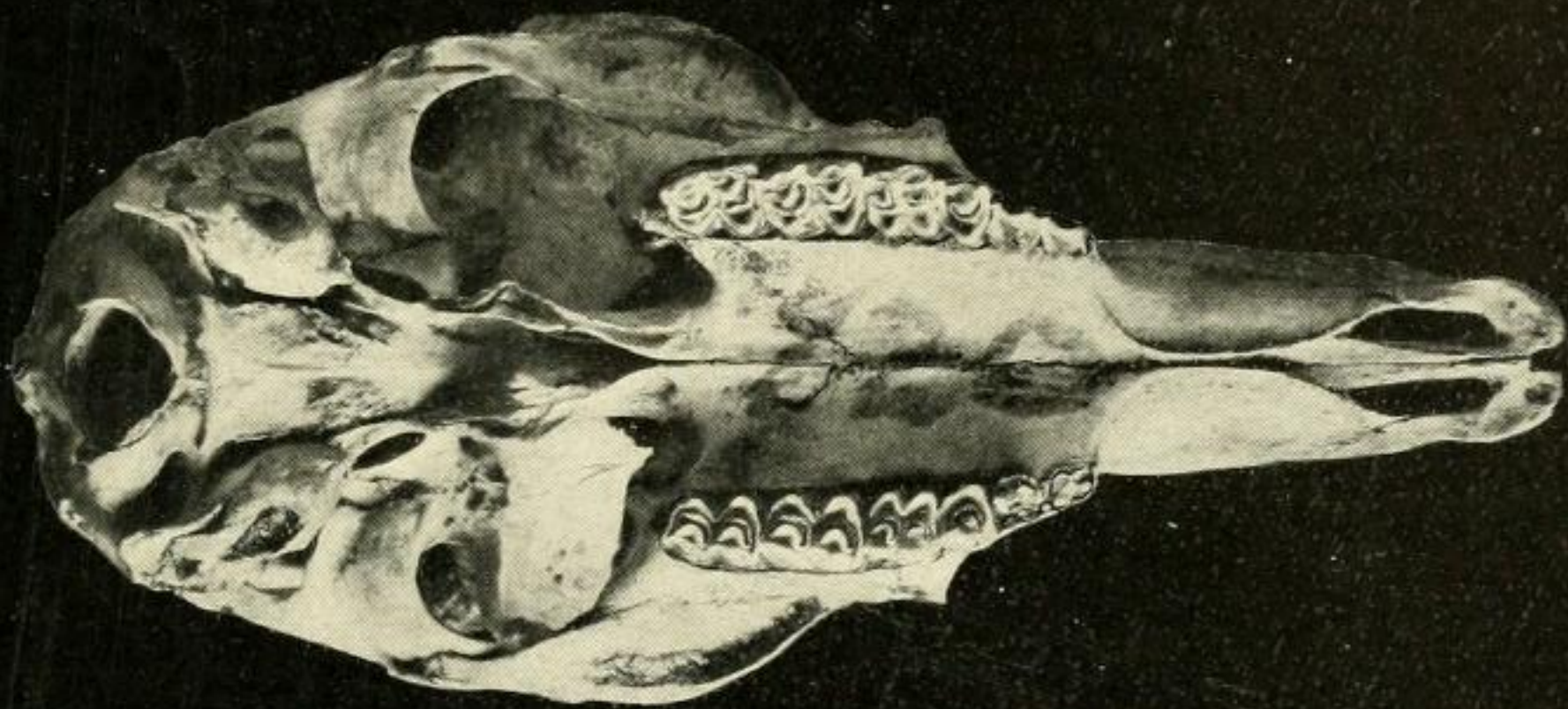
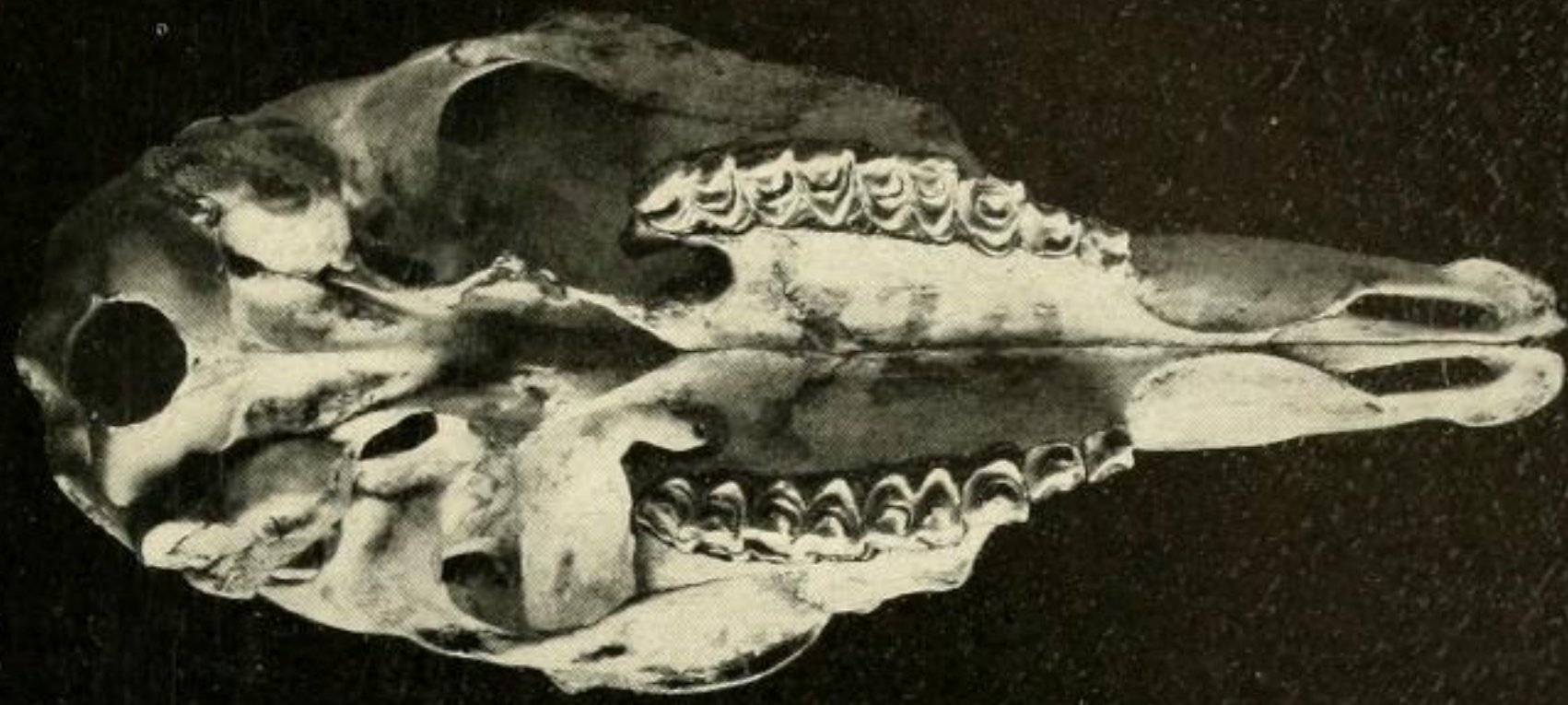
of glossy black; shoulders with much more black, giving them a general grizzly appearance, the individual hairs with an extra ring of black. Lower neck and arm-pits white; arms below elbow and hands dirty creamy white. A dark stripe, from middle of back to tip of tail, cinnamon-rufous, richest and darkest on rump and root of tail, where it is pure glossy bay, and shading to pale ochraceous at tip of tail. Rump to callosities and down outer sides of legs slightly more than half way to knees glossy bay; outsides of legs and feet cream; inner sides of legs white; under side of tail cream. Long hair of sides pale cinnamon-rufous, with less black than above; belly thinly haired, the hairs ochraceous to ochraceous-buff with white tips.

Measurements of type.—Length of skin from nose to root of tail, 870 millimeters; length of tail (dry skin), 640. Skull: Greatest length, 149; condylobasal length, 120; zygomatic breadth, 99; length of nasals, 22.5; maxillary tooth row, exclusive of canines, 32.

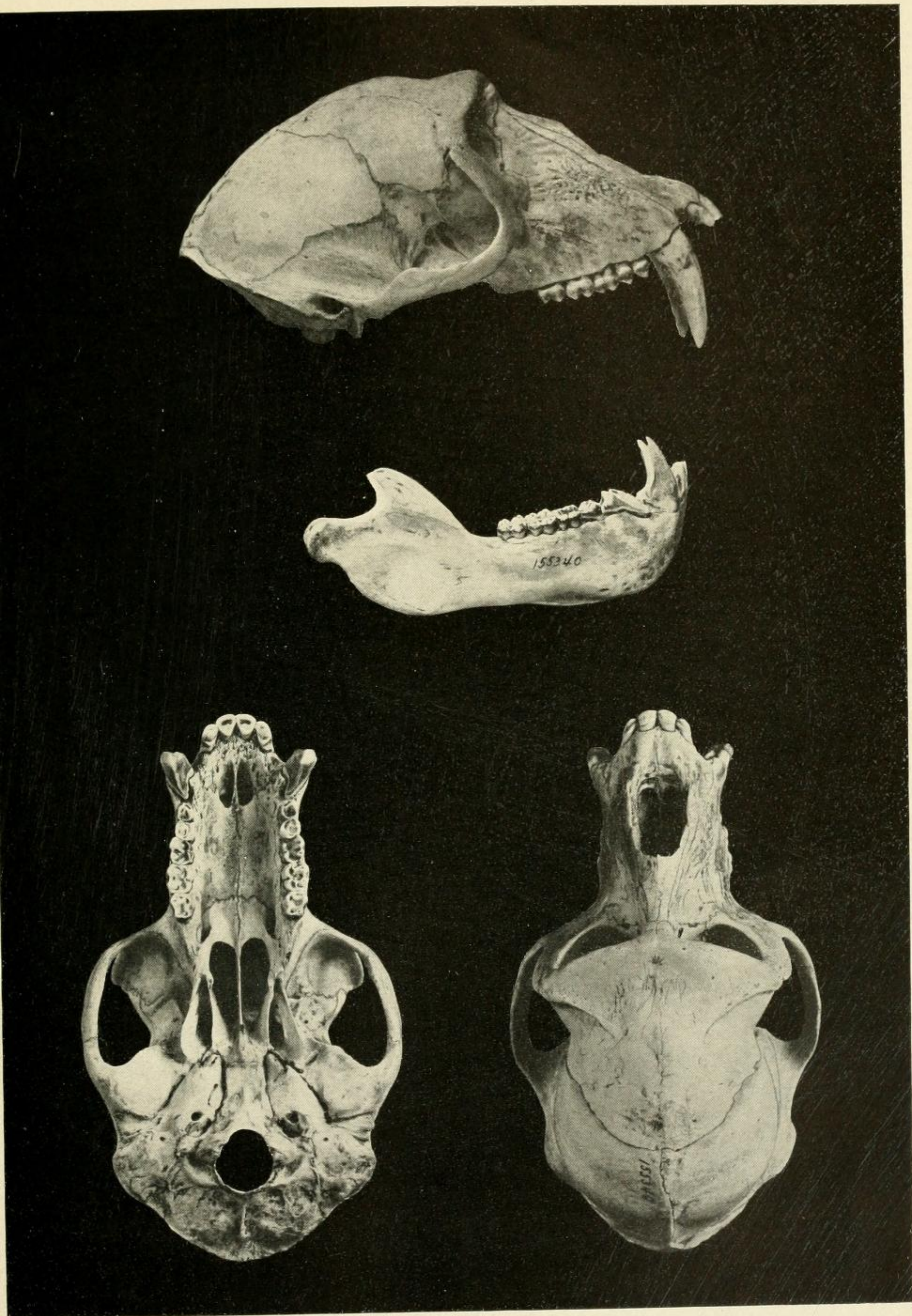
Erythrocebus whitei seems to be a very different animal from any of the previously described species. It differs from the plate of the type specimen of *E. pyrrhonotus*¹ in its grizzled back and shoulders, black lines over eye to ears and crown, dark bay frontal patch, and restricted markings on legs. From *E. formosus* it differs in the black brow line extending between eye and ear; hair of lower rump and back not yellow tipped, but black tipped, giving the whole back a very different color—cinnamon-rufous mixed with black, instead of yellowish; sides of neck and chest and outer sides of arms not lemon yellow. From *E. baumstarki* it may be distinguished by the general body color, dark grizzled cinnamon-rufous, instead of pale light red; distinct black forehead band and no white between eye and ear, and many other characters.

Several small groups of these red monkeys were seen on the Guas Ngishu Plateau, in the neighborhood of the Nzoia River. Two specimens were killed by the party; both single males shot from low trees. As usually seen, they were in parties of three or four to a dozen animals, traveling on the ground in open country, and were very hard to approach.

¹ Geoffroy-St. Hilaire and Cuvier, *Histoire Naturelle des Mammifères*, Tome 7, 1842.



1. OUREBIA COTTONI Thomas
2, 3. OUREBIA MICRODON, NEW SPECIES. TYPE
Reduced about one-half



ERYTHROCEBUS WHITEI, NEW SPECIES. TYPE
Reduced about one-half