

NEW RACES OF INSECTIVORES, BATS, AND LEMURS FROM BRITISH EAST AFRICA

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Further study of the collection of East African mammals in the U. S. National Museum has resulted in the discovery of several new races of insectivores, bats, and lemurs which are described in the present paper.

Nearly all of these new forms have been detected in the collection recently made under the direction of Mr. Paul J. Rainey in British East Africa.

The new races described are chiefly from the summits of isolated mountains situated either in the northern desert of British East Africa near the Abyssinian border, or else in the Taru Desert near the coast.

The material has been compared directly with the types of the described species in the British Museum. For the privilege of examining the specimens in the British Museum and for facilities in the working out of the collection the writer is indebted to Mr. Oldfield Thomas, the curator of mammals.

GALAGO MOHOLI COCOS, new subspecies

Type from Mazeras, British East Africa; adult male; No. 181810, U. S. Nat. Mus.; collected by Edmund Heller, December 16, 1911; original number, 4870.

Characters.—Coloration very similar to *gallarum*, but differing by the cinnamon tone to the upper parts and tail and the plumbeous bases to the hair of the underparts. From *nyasæ*, this race differs by lighter dorsal coloration, darker hind feet and longer pelage. The last molar is distinctly larger than in either *gallarum* or *nyasæ*.

Coloration.—Dorsal surface of body cinnamon; the limbs to the toes and the sides lighter, buffy-yellow; tail purer cinnamon deepening toward the tip; head on occiput darker than body, umber-brown; snout with a broad white stripe from nose to middle of forehead, bordered on each side by broccoli-brown which color is continuous on sides of snout to the whitish lips; cheeks grayish-buffy; ears naked, blackish; chin, throat, and sides of neck blackish; underparts

buffy-yellow, the hairs everywhere plumbeous at the base; chest more highly colored, ochraceous.

Measurements.—Head and body, 150 mm.; tail, 203; hind foot, 55; ear, 38.

Skull: Occipito-nasal length, 41; condylo-basal length, 37; zygomatic breadth, 28; interorbital width, 4.5; intertemporal width, 16.5; nasals, 10.8×3.2 ; upper cheek teeth, 12.3; width of palate at m^2 , 7; m^3 length, 3.2; m^3 width, 3.2; width mesopterygoid fossa, 6.2; length palate, 13.2; mandible length, 25; mandible height at coronoid, 12.6.

This race is intermediate between *gallarum* of Somaliland and *nyasæ* of Nyasaland, except in the distinct character of the last molar. *Gallarum* differs chiefly by the pure buffy or whitish hair of the underparts which is white to the roots, and also by the dark hair-brown tail, with a blackish tip. The collection contains six specimens from the type-locality all of which agree in the cinnamon coloration and the large size of the last upper molar. Some fifteen miles farther inland from Mazeras at Maji-ya-chumvi a series of four specimens of *Galago* were obtained. These are all *baccatus*, being ashy-gray in color without any cinnamon suffusion. The Mazeras specimens were all obtained on the brushy borders of the cocoa-palm groves. These groves are the dominant feature in the landscape of the coast belt, and extend almost unbroken from the sea beaches inland a distance of ten or fifteen miles. They mark the tropical littoral zone more precisely than any other plant growth.

MINIOPTERUS NATALENSIS ARENARIUS, new subspecies

Æquatorial Broad Winged Bat

Type from the Guaso Nyuki, Northern Guaso Nyiro River, British East Africa; adult female; No. 181811, U. S. Nat. Mus.; collected by Edmund Heller, October 4, 1911; original number, 4413.

Characters.—Size of *natalensis*, but color paler, pelage shorter; the skull with broader brain-case and with inner incisor greatly exceeding outer in size.

Coloration.—Dorsal color seal-brown, the head darker, clove-brown, and the rump lighter walnut-brown, the hair only slightly darker at the base; underparts washed with drab-gray, the hair basally dark slaty; ears and membranes blackish, the latter narrowly white bordered.

Measurements.—Head and body, 55 mm.; tail, 47; hind foot, 9; ear, 11; forearm, 45.

Skull: Greatest length, 14.8; condylo-incisive length, 14.3; basilar length, 11; zygomatic length, 5.6; upper cheek teeth, 4.8; condylo-incisive length of mandible, 10.9; coronoid-angular depth of mandible, 3.5.

The type was secured in a large crevice among granite boulders on the summit of a small kopje. One other specimen was shot at dusk among some acacia trees in the same vicinity.

PIPISTRELLUS AERO, new species

Uaragess Pipistrelle

Type from summit of Mount Garguez, Mathews Range, altitude 7,000 ft., British East Africa, adult male; No. 181812, U. S. Nat. Mus.; collected by Edmund Heller, August 26, 1911; original number, 4110.

Characters.—Similar to *fuscatus* in color and in the position of the first upper premolar which is placed well inside of the tooth-row, but size of body much less, equal to that of *nanus*, which differs from it in the position of the minute first upper premolar which is in the tooth-row and can be seen from the outside. Skull larger than in *nanus*.

Coloration.—Dorsal coloration uniform vandyke-brown; underparts lighter wood-brown, the hair everywhere slate-black at base; membranes, feet, ears, and tail black.

Measurements.—Head and body, 42 mm.; tail, 32; foot, 6; ear, 10.5; forearm, 31.5.

Skull: Condylo-incisive length, 12; zygomatic breadth, 8.5; mastoid breadth, 7; length upper tooth series to outer edge of canine, 4.8; condylo-incisive length of mandible, 9.

Two additional specimens from the summit of Mt. Garguez are in the collection. They agree with the type in color, size, and dental characters. This species was seen only in the heavy forest on the summit of the mountain. Numbers of them were seen at dusk every evening but no other species was noted at so high an altitude.

PIPISTRELLUS HELIOS, new species

Samburr Pipistrelle

Type from Merelle Water, 30 miles south of Mt. Marsabit, British East Africa; adult male; No. 181813, U. S. Nat. Mus.; collected by Edmund Heller, July 22, 1911; original number, 3065.

Characters.—Related most closely to *nanus* but size much less and coloration much paler; size of *culex*, but inner upper incisors broad

and bifid at tip; from *ariel* it differs in bifid inner upper incisor and large size of first upper premolar.

Coloration.—Dorsal haired area ochraceous-buff; the hair at extreme base deep black; underparts lighter, buff in color, the hair deep black on the basal two-thirds of its length; ears naked, clay color; membranes blackish, narrowly edged by white.

Measurements.—Head and body, 45 mm.; tail, 31; hind foot, 5; ear, 9; forearm, 27.5.

Skull: Greatest length, 11; condylo-incisive length, 10.6; basilar length, 8.3; zygomatic breadth, 7; interorbital constriction, 3.2; palatilar length (nasal notch), 4.1; upper cheek teeth, 2.9; condylo-incisive length of mandible, 7.7; coronoid-angular depth of mandible, 2.8.

Three specimens of this diminutive *Pipistrelle* are in the collection. All were collected in the Northern Guaso Nyiro watershed.

PACHYURA LIXA ÆQUATORIA, new subspecies

Æquatorial Pachyura

Type from the summit of Mt. Sagalla, Taita Hills, British East Africa, altitude 4,000 ft.; adult male; No. 181814, U. S. Nat. Mus.; collected by Edmund Heller, November 19, 1911; original number, 4815.

Characters.—Most closely allied to *lixa* but differing by larger size, darker coloration and dark colored tail; fourth upper unicuspid large and placed in tooth row so that it is visible from the side, the relative size of the unicuspids agrees with *lixa* and is distinctly different from *leucura* in which species the fourth is minute and shoved inside the tooth row in the angle between the third and the large premolar, differs further from *leucura*, its nearest geographical ally, by much smaller size and dark tail.

Coloration.—Dorsal color uniform slate-gray, underparts distinctly lighter, gray 8 of Ridgway, the two colors rather sharply defined on sides; lateral gland conspicuously marked by an elliptical patch of short white hair; hair everywhere plumbeous at base; feet white; ears and tail slate-gray the latter whitish only on underside for the basal one-half.

Measurements.—Head and body, 75 mm.; tail, 56; hind foot, 12.5.

Skull: Post glenoid process to outside edge of incisors, 12; breadth of brain-case, 9.5; length of upper tooth row, 8.8; condylo-incisive length of mandible, 12.5; depth of coronoid process, 5.

Type unique. Skull broken posteriorly, the whole occipital, auditory and sphenoidal portion missing. The third upper unicuspid

about twice the size of the second which is scarcely twice the size of the fourth. The species is closely related to *lixa* of Nyasaland and rather distantly to the large *leucura* which occurs on Zanzibar Island and on the coast at Lamu and Witu.

PACHYURA INFINITESIMA, new species

Pygmy *Pachyura*

Type from Rumruti, Laikipia Plateau, British East Africa; altitude 7,000 ft.; adult male; No. 11.4.6.5, Brit. Mus.; collected by Robin Kemp, October 27, 1910; original number, 1431.

Characters.—Most closely allied to *nanilla* of South Africa, but size considerably smaller and color of upper parts broccoli-brown, not variegated-gray; fourth upper unicuspid large, one-third size of second and placed in tooth row, there being a slight diastema between it and the following tooth; second unicuspid only about one-half size of third; relative sizes of unicuspids agreeing with *nanilla*.

Coloration.—Dorsal color uniform broccoli-brown, underparts much lighter silvery, gray 10 of Ridgway, fairly sharply defined on sides; hair everywhere plumbeous at base, except on chin where it is white to the roots; position of lateral glands marked by a conspicuous patch of white hair; feet white; ears and tail dorsally broccoli-brown, the underside of the latter whitish for the basal one-half.

Measurements.—Head and body, 57.5 mm.; tail, 26; hind foot, 8.5.

Skull: Condilo-incisive length, 14.5; breadth of brain-case, 6.5; length of upper tooth row, 5.8; condilo-incisive length of mandible, 8.9; depth at coronoid process, 3.8.

Type unique. This species is somewhat smaller than *nanilla* and is the smallest African race, but is less minute than *madagascarensis*. *Crocidura nanilla*, which resembles this species in size and color, is a true *Crocidura*. The fourth unicuspid, which the type skull shows on its right side, is a mere compressed ridge of dentine crowded in between the third unicuspid and the large premolar and has no resemblance to the low circular cuspid tooth of *Pachyura* which represents the fourth upper unicuspid. The left side of *nanilla* lacks any adventitious tooth of this sort and is of the normal *Crocidura* type. In *nanilla* the third unicuspid is scarcely larger than the second while in *Pachyura* this tooth is usually double the size of the second. There is in the collection among a large series of *Crocidura suahelæ* one specimen which shows a similar compressed ridge-like

fourth upper unicuspid on each side. These adventitious teeth have peculiar compressed knife-like crowns which are wedged in between the normal teeth much like the blade of a knife might be inserted in the tooth row.

CROCIDURA SUAHELÆ, new species

Strand Shrew

Type from Mazeras, British East Africa; adult male; No. 181815, U. S. Nat. Mus.; collected by Edmund Heller, December 17, 1911; original number, 4875.

Characters.—Agreeing with *voi* in the enlarged character of the second unicuspid in comparison to the third, but size of body much larger and coloration broccoli-brown, not slaty.

Coloration.—Dorsal coloration uniform broccoli-brown not sharply defined against the drab-gray of the underparts; hair everywhere slate-gray at base; lateral glands defined by a conspicuous line of white hairs; feet somewhat lighter than body, drab in color; tail uniform in color with the dorsum and clothed by short brown hair and scattered long white hairs on the basal two-thirds.

Measurements.—Head and body, 110 mm.; tail, 69; hind foot, 16.

Skull: Condyllo-incisive length, 26.5; width of brain-case, 10.5; interorbital width, 4.8; upper tooth row (crowns), 11.8; condyllo-incisive length of mandible, 16; depth (coronoid process to ramus), 7.3.

Dentition crowded, causing the second unicuspid to appear decidedly larger than the third from the side. When viewed from below they are seen to be actually the same in size.

This species although possessing the dental characters of *voi* does not seem to intergrade with it in size or coloration. It is a decidedly larger species approaching very closely *flavescens* in actual size of body and teeth, but differing by the enlarged second unicuspid from the members of that group.

A series of twenty from the type locality are in the collection. The color variation is almost nil, except in very immature specimens which are uniform grayish.

CROCIDURA TURBA LAKIUNDÆ, new subspecies

Lakiunda Swamp Shrew

Type from the Lakiundu River, near its junction with the Northern Guaso Nyiro River, British East Africa; adult female; No. 181816, U. S. Nat. Mus.; collected by Edmund Heller, July 12, 1911; original number, 1986.

Characters.—Most closely allied to *provocax* of which it is the low country representative; differs by very much browner coloration, shorter pelage and longer tail; third unicuspid very slightly larger than the second as in *turba* and its allies; skull similar to *provocax* but smaller.

Coloration.—Dorsal coloration uniform vandyke-brown, the underparts but slightly lighter in color, broccoli-brown; the color on the sides merging imperceptibly into the underparts; feet and ears drab; tail uniform in color, vandyke-brown; hair everywhere plumbeous at base.

Measurements.—Head and body, 95 mm.; tail, 57; hind foot, 15.5.

Skull: Condyllo-incisive length, 23; width of brain-case, 10; length of upper tooth row, 10.4; condyllo-incisive length of mandible, 14.5; depth at coronoid process, 5.5.

This is a lighter, more brownish race of *provocax* which occurs at the rather low elevation of 2,000 ft. on a stream, Northern Guaso Nyiro, which rises in the Aberdare Range in the territory inhabited by *provocax*. It has the second and third unicuspid of about equal size, the latter never attaining twice the size of the second as in *fumosa*. The second unicuspid viewed from the side looks distinctly larger than the third but when viewed from below where the whole tooth can be seen its real relative size is seen to be equal or slightly larger than the second.

A series of nine specimens is in the collection, seven of these are topotypes and the others are from neighboring localities on the Isiola River and Northern Guaso Nyiro at the Government post. Some of the specimens are rather darker than the type and are quite intermediate in color with *provocax*. The specimens were all secured in marshes or along the reedy borders of streams.

CROCIDURA RAINEYI, new species

Rainey Shrew

Type from Mt. Garguez, Mathews Range, British East Africa, altitude 6,000 ft.; adult male; No. 181817, U. S. Nat. Mus.; collected by Edmund Heller, September, 1911; original number, 4195.

Characters.—Most closely allied to *fumosa montis* from which it differs by larger size and decidedly more grayish coloration. Agrees with the *fumosa* group in having the third upper unicuspid twice the size of the second, but skull decidedly larger than in any other member of the group.

Coloration.—Dorsal coloration slate-gray with a broccoli-brown suffusion and fine silvery ticking when viewed from behind, under-

parts scarcely different in shade from the dorsal, but without the silvery ticking; hair everywhere plumbeous at base, hands and feet whitish; ears naked, whitish; tail indistinctly bicolor, drab above, whitish below; lateral glands marked by short grayish hairs which are not noticeably different from the sides in color.

Measurements.—Head and body, 90 mm.; tail, 61; hind foot, 15.5.

Skull: Condilo-incisive length, 23.3; breadth of brain-case, 10.7; length upper tooth row, 11; condilo-incisive length of mandible, 15.8; depth of mandible at coronoid process, 6.

This species is a close ally of *fumosa*, but differs more in color from the typical form from Mt. Kenia, than from the Mt. Ruwenzori race, *montis*. The series of eight specimens from the type locality show absolutely no color variation from the type and no intergradation takes place with the Kenia species. This is in agreement with the isolated habitat. The species is confined to the extreme forested summit of Mount Garguez which is isolated from the Kenia forest by low bush covered desert in which no representative of the *fumosa* group is known to occur. *Fumosa* and its allies are all forest species known only from the highlands with the exception of *schisticea* of the high veldt of the Athi Plains. On Mt. Garguez this race was found from the lower edge of the forest at 5,000 feet to the summit, 7,000 feet.

CROCIDURA LUTREOLA, new species

Mbololo Brown Shrew

Type from the summit of Mt. Mbololo, Taita Hills, British East Africa, altitude 5,000 ft.; adult female; No. 181818, U. S. Nat. Mus.; collected by Edmund Heller, November 6, 1911; original number, 4635.

Characters.—Allied most closely to *jacksoni*, but distinguishable by the darker coloration and narrower smaller skull; third unicuspid decidedly larger than second, almost twice as large while in *jacksoni* the relative difference in size is slightly less.

Coloration.—Dorsal color seal-brown, uniform in color to lower sides; underparts broccoli-brown; hair everywhere plumbeous at base; feet and ears broccoli-brown, tail seal-brown above and somewhat lighter below but not distinctly bicolor.

Measurements.—Head and body, 70 mm.; tail, 52; hind foot, 12.5.

Skull: Condilo-incisive length, 19; width of brain-case, 8.7; length of upper tooth row, 8; condilo-incisive length of mandible, 11.5; depth at coronoid process, 4.5.

This is one of the *jacksoni* group which are chiefly distinguishable from *hildegardæ* by the marked enlargement of the third unicuspid in comparison to the second which is only about half its size. The skull of the type of *hildegardæ* has lost both its second upper unicuspid but the third is much smaller than the same tooth in the type of *jacksoni* and could not have been any larger than the missing second unicuspid. The specimens of *jacksoni* in the British Museum are only two, both of which are from alcoholic material. These two appear considerably lighter and their skulls are decidedly larger.

From Mt. Mbololo we have eight skins of this new race and two also from the forest on Mt. Umengo, a neighboring mountain. From the summit of Mt. Sagalla, also one of the Taiti Hills, there is a series of much lighter specimens which no doubt represent *parvipes* although their tails are much longer than that of the typical specimen which came from the base of this mountain. Mt. Sagalla is a lower mountain than Mbololo and lacks the forest covering on its summit chiefly on account of its lack of moisture, to which environmental difference the lighter color of its shrews seems to be due.

CROCIDURA HILDEGARDEÆ ALTÆ, new subspecies

Uaragess Brown Shrew

Type from Mt. Garguez, Mathews Range, British East Africa, altitude 6,000 ft.; adult male; No. 181819, U. S. Nat. Mus.; collected by Edmund Heller, August 31, 1911; original number, 4190.

Characters.—Like *hildegardæ* but tail longer and coloration darker, third unicuspid equal to size of second as in typical *hildegardæ*.

Coloration.—Dorsal coloration vandyke-brown merging imperceptibly on sides into the slightly lighter drab colored underparts, hair everywhere plumbeous at base; feet drab; ears darker, hair-brown; tail almost uniform vandyke-brown, only lighter on underside basally.

Measurements.—Head and body, 74 mm.; tail, 62; hind foot, 13.5.

Skull: Condyllo-incisive length, 19.8; breadth of brain-case, 9.2; length of upper tooth row, 8.7; condyllo-incisive length of mandible, 12; depth at coronoid process, 4.8.

This race is confined to the forested summit of Mt. Garguez ranging from 5,000 to 6,000 ft. The lower slopes of the mountain are inhabited by the shorter tailed and lighter colored race *procera*. A series of six topotypes are in the collection. These show very little variation in the coloration or in length of tail.

CROCIDURA HILDEGARDEÆ PROCERA, new subspecies

Juniper Brown Shrew

Type from the summit of Mt. Lololokui, Northern Guaso Nyiro district, British East Africa; altitude 6,000 ft.; adult female; No. 181820, U. S. Nat. Mus.; collected by Edmund Heller, September 9, 1911; original number, 4274.

Characters.—Allied closely to *hildegardæ* and having the same proportions, but lighter colored, especially the underparts, and slightly larger sized; differs from its nearer geographical ally *altæ* by lighter, whitish underparts and shorter tail; second and third unicusps equal in size, the third not appreciably larger.

Coloration.—Dorsal color broccoli-brown the color uniform to lower sides where it is fairly well defined against the light gray underparts; hair everywhere plumbeous at base; feet white; ears drab; tail indistinctly bicolor, broccoli-brown above, drab-gray below.

Measurements.—Head and body, 72 mm.; tail, 51; hind foot, 12.

Skull: Condilo-incisive length, 20; breadth of brain-case, 9; length of upper tooth row, 8.8; condilo-incisive length of mandible, 12.7; depth at coronoid process, 4.8.

This shrew was found abundantly in the dry juniper forest which grows on the broad summit of Mt. Lololokui. A series of eleven skins is in the collection from the type locality besides three others from the lower slopes of Mt. Garguez. On Mt. Garguez the juniper, *Juniperus procera*, grows as a fringing forest below the dense forest proper on the dryer slopes of the mountain and it is in this zone that the present race occurs abundantly. They are not known however, to inhabit the dry arid plains from which these two mountains rise nor are they known from the Northern Guaso Nyiro River. The whitish underparts at once distinguish it from any of the other races of *hildegardæ*.

ELEPHANTULUS RUFESCENS MARIAKANÆ, new subspecies

Coast Elephant Shrew

Type from Mariakani, British East Africa; adult female; No. 181821, U. S. Nat. Mus.; collected by Edmund Heller, December 31, 1911; original number, 5072.

Characters.—Intermediate in coloration between the dark race, *pulcher*, and the reddish *rufescens*; median dorsal coloration wood-brown, much lighter than the prout-brown of *pulcher* and much less reddish than the russet of *rufescens*; size and skull about as in *rufescens*.

Coloration.—Median dorsal color from snout to base of tail wood-brown, sides of head and body lighter, olive-buff, the color sharply defined below against the silky white underparts; fore and hind feet white; tail bicolor hair-brown above, white below, the two colors sharply defined on sides, tail covered by short hairs which hide the annulations; eye bordered below by a wide white band, and another above, which latter is continuous as a wide postocular stripe to base of ear; this stripe bordered below by a large patch of cinnamon which reaches the orbit; rest of cheeks olive-buff like sides, ears naked and blackish with a tuft of white hairs at base in front and a fulvus patch at posterior border; underparts pure silky white, the hair everywhere slate at base, except on chin where it is white to the roots; chest gland bordered by a patch of vinaceous-cinnamon hair.

Measurements.—Head and body, 130 mm.; tail, 108; hind foot, 30; ear, 22.

Skull: Occipito-nasal length, 35.5; zygomatic breadth, 19.5; inter-orbital breadth, 6.3; nasals, 13.5 x 2.8; upper molar series, 6.3; width of palate at m^2 , 6.8; length of mandible, 25.5; height at coronoid, 10.5.

Five specimens are in the collection from the type locality. One of these is a mature male which is slightly darker than the type. There is also an immature male and two nursing young. These young examples are quite like the adult in color but much longer haired and woollier in appearance. This race is a coast form and its darker coloration is no doubt due to the moister climate to which it is subject. *Pulcher* which is an inland and highland race is also a dark form and differs from this race only in degree of color. Between the two areas of these races is found the russet colored desert form *rufescens*. The moist conditions of the immediate coast strip and the highlands of the interior produce a similar dark coloration in this species while the climate of the intervening desert region produces a decidedly reddish type of coloration.

All of the species of the *rufescens* group have a large chest gland covered thickly by short white hair in both sexes. This chest gland only occurs in specimens from northern German East Africa northward to Somaliland and Abyssinia. In the north, however, we find *revoili* and its allies without the chest gland and a similar condition is found in all the *rupestris* allies of the Zambesia and South African region. The forms called *pulcher*, *somalicus*, *boranus*, *dundasi*, and *peasei* are all races of *rufescens* and of only subspecific value. These

appear to be very well separated as a group from the other members of the genus by the possession of the peculiar chest gland.

PETRODROMUS SULTANI SANGI, new subspecies

Taita Giant Elephant Shrew

Type from the summit of Mt. Mbololo, 4,000 ft. altitude, Taita Hills, British East Africa; adult male; No. 181822, U. S. Nat. Mus.; collected by Edmund Heller, November 9, 1911; original number, 4698.

Characters.—Differs from *sultani* of the coast district by lighter coloration, the median dorsal region being raw umber rather than bister and the lowerparts cream-white instead of ochraceous-buff as in *sultani*. Skull, smaller, with the posterior ends of the nasal bones deeply sunk between the raised borders of the maxillary bones.

Coloration.—Median dorsal area, from interorbital region to base of tail, raw umber bordered on sides of body by olive-gray which gradually merges into buff along lower sides of body; hind limbs buffy like the sides, the feet cinnamon; fore legs buffy like sides, the feet ochraceous-buff. Tail black, at base on lower side for a short distance buff; armed along its lower margin by a row of long stiff-knobbed bristles; crown of head raw umber, the same color continued as a median stripe to the tip of the proboscis, a broad stripe of same color through eye from base of whiskers to behind ear, eye bordered above and below by a wide line of cream-buff, and base of ears encircled by a border of same color; cheeks olive-gray; ears blackish, covered by a few short tawny hairs; underparts white, on sides somewhat cream-buff but everywhere sharply defined against the buff of the lower sides; hair everywhere slate at base except on chin and forethroat where it is uniform cream-buff to the roots.

Measurements.—Head and body, 190 mm.; tail, 123 (tip missing); hind foot, 56; ear, 34.

Skull: Occipito-nasal length, 53; condylo-basal length, 52.5; zygomatic breadth, 29.5; interorbital width, 8; nasals, 21 x 4; upper molar series, 10; width of palate at m², 10.3; mandible length, 42; height from angle to coronoid process, 18.3.

Only the type was secured in the Taita Hills, but three specimens from the same region secured by R. Kemp and now in the British Museum agree well with the type in coloration. A large series from Mazeras are also of the same light color while the type and the

specimens from the Shimba Hills in the British Museum collection are quite dark. The large series of specimens examined demonstrate conclusively that the female is distinctly darker bellied than the male, being quite ochraceous-buff below while the male is whitish or at most cream-buff.

This large insectivore is known to the Duruma tribe as sangi. They are an article of diet with these negroes who catch them in snares set along their runways in the forests.



Heller, Edmund. 1912. "New races of Insectivores, Bats, and Lemurs from British East Africa." *Smithsonian miscellaneous collections* 60, 1–13.

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