

**Article VII.—LIST OF MAMMALS COLLECTED IN
THE BLACK HILLS REGION OF SOUTH DAKOTA
AND IN WESTERN KANSAS BY MR. WALTER W.
GRANGER, WITH FIELD NOTES BY THE COL-
LECTOR.**

By J. A. ALLEN.

During the season of 1894 the Palæontological Expedition from the Museum, under the direction of Dr. J. L. Wortman, was accompanied by Mr. Walter W. Granger, an assistant in the Museum, who was sent into the field to utilize the opportunities for field work afforded by the Expedition. Mr. Granger gave most of his time to collecting the small mammals of the regions visited, but also collected many birds and reptiles. The mammals obtained number about 600 specimens, representing 42 species.

The first stop was at Pendennis, Lane County, Kansas, where three days were spent, namely, May 8-10. Here 23 small mammals were obtained, representing 7 species, one of which (*Neotoma campestris* Allen) proved to be new.

The objective point of the Expedition was the Bad Lands of the White River Miocene, on the Pine Ridge Indian Reservation, South Dakota. Here Mr. Granger collected for a month (May 16 to June 14) in the early part of summer, and again for ten days in August (Aug. 18-27). In July he left the Expedition for a trip into the Black Hills, stopping en route at a ranch on Spring Creek from June 19 to July 4; also at a ranch on the Cheyenne River from July 5 to July 13; and on Squaw Creek from July 20 to July 23. Custer, in the Black Hills, was reached July 24, where Mr. Granger remained till August 9, when he moved camp to Hill City, some twenty-five miles north of Custer, where he spent three days, returning thence to join the Expedition again in the Bad Lands. Here work was continued till August 28. About a week in the early part of September was again spent in the Black Hills, at the abandoned tin mine known as Glendale.

Later about six weeks (Sept. 14–Nov. 2) were spent at Long Island, Phillips County, Kansas, where zoölogical collecting was carried on incidentally in connection with field work in palæontology.

Although the material here under notice was gathered in part at quite distant localities, it has seemed best to combine the results of Mr. Granger's work into a single consecutive list, giving also nominal lists of the species obtained at each of the principal localities.

The following descriptive account of the localities visited is based on notes kindly furnished by Mr. Granger.

Pendennis, Lane Co., Kans.—In the prairie region of west-central Kansas. Most of the collecting was done in the 'cañons,' from ten to a hundred feet wide and thirty to forty feet in depth. A few wild currant bushes and other small shrubs grow along the bottom of these cañons. Here the following species of mammals were obtained :

<i>Perodipus richardsoni.</i>	<i>Reithrodontomys dychei nebrascensis.</i>
<i>Perognathus paradoxus.</i>	<i>Peromyscus leucopus texanus.</i>
<i>Neotoma campestris.</i>	<i>Spermophilus tridecemlineatus pallidus.</i>
<i>Onychomys leucogaster.</i>	

Long Island, Phillips Co., Kans.—Northern border of central Kansas. The following species were obtained here :

<i>Lepus campestris.</i>	<i>Sciurus niger ludovicianus.</i>
<i>Lepus melanotis.</i>	<i>Spermophilus tridecemlineatus pallidus.</i>
<i>Lepus sylvaticus bachmani.</i>	<i>Cynomys ludovicianus.</i>
<i>Geomys lutescens.</i>	<i>Scalopus aquaticus argentatus.</i>
<i>Mus decumanus.</i>	<i>Mephitis mesomelas.</i>
<i>Mus musculus.</i>	<i>Spilogale interrupta.</i>
<i>Peromyscus leucopus texanus.</i>	

Corral Draw, Pine River Indian Reservation, South Dakota.—In the Bad Lands, between the Cheyenne and White Rivers, at the southeastern base of the Black Hills. Altitude about 3500 to 4000 feet. The country is rough and broken, consisting of alternating buttes and cañons, cut in gray clay, interbedded with occasional layers of sandstone. Some of the cañons are quite deep, their sides formed of ledges of sandstone, and with water-worn caves in the intervening beds of clay.

Corral Draw is one of the many 'draws' or valleys that lead from the interior of the bad lands down to the Cheyenne River, a distance of about ten miles. These draws are beds of creeks, which are dry except after heavy rains. The vegetation is generally scanty. A few of the higher buttes are flat-topped, and their level summits are well covered with a good growth of grass, cacti, sunflowers and other coarse plants. Sheep Mountain, the most prominent of these buttes, is covered with low cedars, which also grow in clumps on the slopes of some of the other buttes. In Corral Draw the soil is sandy and supports good grass. Cottonwoods extend about half way up the draw from the Cheyenne River.

Spring Creek, S. Dak.—Spring Creek rises in the Black Hills and runs into the South Fork of the Cheyenne River. After leaving the Hills it passes through fertile prairie lands its entire length. It is bordered by boxelder, cottonwoods, plumb thickets, willows, wild currants, and rank weeds and grass. The specimens labeled as from Spring Creek were taken at a ranch seven miles from its entrance into Cheyenne River.

Cheyenne River, S. Dak.—The specimens labeled as from Cheyenne River were taken at the mouth of Spring Creek, and hence well out from the Hills. The species obtained here were the same as those from Corral Draw, with the following in addition: *Perodipus richardsoni*, *Corynorhinus townsendi*, and *Taxidea taxus*. These doubtless also occur at the former locality.

Squaw Creek, Custer Co., S. Dak.—A small creek just in the edge of the pine forests of the Black Hills. Altitude about 3000 feet. The cañon through which the creek passes is wooded with aspens, willows, boxelders and other deciduous trees. The few mammals obtained here belong distinctively to the Black Hills fauna.

Custer, Black Hills, S. Dak.—Altitude 5500 feet. In the pine forests of the Black Hills. The collecting here was done in one of the numerous small parks near the town of Custer. This little park was about a mile and a half long by half a mile wide, and

is drained by French Creek, which passes lengthwise through it. It is surrounded by pine forests. The land in the park is now mostly under cultivation.

Hill City and Glendale Mine.—These two localities are practically the same, as regards elevation and surroundings, as Custer.

The South Dakota mammals are found to fall rather sharply into two groups, those from the Bad Lands (Corral Draw, Spring Creek, and Cheyenne River) and those from the Black Hills (Custer, Hill City, Glendale, and Spring Creek). The two categories compare as follows :

Black Hills.

Lepus sylvaticus grangeri.

Thomomys talpoides.

Zapus princeps.

Neotoma grangeri.

Peromyscus leucopus arcticus.

Microtus longicaudus.

Microtus insperatus.

Evotomys gapperi brevicaudus.

Fiber zibethicus pallidus.

Arctomys dacota.

Spermophilus tridecemlineatus pallidus.

Tamias quadrivittatus borealis.

Sciurus hudsonicus dakotensis.

Sorex forsteri.

Putorius longicaudus.

Bad Lands.

Lepus sylvaticus nuttalli,

Lepus campestris.

Thomomys talpoides.

Perodipus richardsoni.

Perognathus paradoxus.

Perognathus fasciatus.

Erethizon epizanthus.

Neotoma rupicola.

Peromyscus l. nebrascensis.

Microtus haydeni.

Cynomys ludovicianus.

Spermophilus t. pallidus.

Tamias minimus.

Adelonycteris fusca.

Vespertilio ciliolabrum.

Corynorhinus townsendi.

Taxidea taxus.

The above lists are of course not exhaustive for the localities treated, and more of the species are common to the two-regions than these comparative lists indicate. It is interesting to note that there are several representative or parallel forms, according in coloration and in other features with their respective surroundings, as strikingly illustrated in the genera *Lepus*, *Peromyscus*, *Neotoma*, and *Tamias*.

¹ A few species are included of which no specimens were obtained, these being given on the authority of Mr. Granger. They are mainly the larger game and fur-bearing animals of the Black Hills region, respecting which Mr. Granger gives interesting information.¹

The collection contained a number of forms believed to be new, and as such were mostly described in the preceding volume of this Bulletin (Vol. VI, pp. 320, 322-326, 346). They are as follows:

<i>Lepus sylvaticus grangeri</i> . ²	<i>Neotoma rupicola</i> .
<i>Neotoma campestris</i> .	<i>Microtus insperatus</i> .
<i>Neotoma grangeri</i> .	<i>Sciurus hudsonicus dakotensis</i> .

1. *Cervus canadensis* Erxl. ELK.—“The Elk has been extinct in the Black Hills for several years, but the numerous antlers which are to be seen at nearly every ranch show that it was recently not uncommon.”—W. W. G.

2. *Dorcelaphus hemionus* (Raf.). MULE DEER; BLACK-TAILED DEER.—“Numerous in the Black Hills. About extinct in the Bad Lands.”—W. W. G.

3. *Dorcelaphus virginianus macrourus* (Raf.).³ WHITE-TAILED DEER.—“Two White-tailed Deer came to an oat field near camp one morning at Custer. They were the only ones I saw.”—W. W. G.

4. *Antilocapra americana* Ord. ANTELOPE.—“Becoming very scarce south of the Belle Fourche River, and entirely exterminated in the vicinity of Spring Creek.”—W. W. G.

5. *Ovis cervina* Desm. MOUNTAIN SHEEP.—“I was told of the presence of a small herd of Mountain Sheep in the vicinity of Harney Peak, in the Black Hills. In the Bad Lands they are quite common. Several were seen by our party, and their

¹ Mr. Granger's field notes are distinguished by marks of quotation and his initials (W. W. G.).

² Described below, p. 264.

³ *Cervus macrourus* RAFINESQUE, Am. Month. Mag., I. Oct., 1817, p. 436. Based on the “long-tailed deer” of Charles Le Raye's Journal. Cf. Baird (Mam. N. Am., 1857, p. 652) on the probable availability of the name *Cervus macrourus* Raf. for the White-tailed Deer of the Upper Missouri and Upper Platte region, as against *C. leucurus* Douglas based on a deer from the Columbia River.

tracks could be seen at any time. They live mostly in the high flat-topped buttes, where there is good grass."—W. W. G.

6. *Lepus campestris* Bach. PRAIRIE HARE ; WHITE-TAILED JACK RABBIT.—Corral Draw, May 25, 2 specimens ; Long Island, Kans., Sept. 24 and Oct. 27, 2 specimens.

7. *Lepus melanotis* Mearns. EASTERN BLACK-EARED JACK RABBIT.—Long Island, Kans., Sept. 17–Nov. 2, 8 specimens.

8. *Lepus sylvaticus bachmani* (Waterh.). TEXAN WOOD HARE.—Long Island, Kans., Sept. 15–Oct. 29, 10 specimens.

In general features these specimens greatly resemble the form of Wood Hare of the coast region of Texas. They are, however, somewhat larger, but not otherwise sensibly different.

Five adult females and three adult males measure as follows : Total length, 399 (372–432) ; tail vertebræ, 55 (51–63.5) ; hind foot, 93 (89–95).

9. *Lepus sylvaticus nuttalli* Bach. NUTTALL'S WOOD HARE.—Corral Draw, May 23 and Aug. 22–26, 7 specimens ; Battle Creek, May 28, 1 specimen ; Cheyenne River, July 7–12, 6 specimens.

Of these 14 specimens 8 are young in various stages of immaturity. They are provisionally referred to the northern interior form of the *sylvaticus* group, specimens from the type locality of *nuttalli* (Columbia River region) being unavailable for comparison.

10. *Lepus sylvaticus grangeri*, subsp. nov.

BLACK HILLS WOOD HARE.

A series of 6 specimens from Hill City, in the Black Hills (Aug. 10, 11), represent a form of the *sylvaticus* group very different from that found in the bad lands and creek bottoms of the adjoining country to the eastward, the differences being shown quite as strikingly by the half-grown young of the two forms as by the adults.

Size medium ; ears small and heavily clothed, as are also the feet ; coloration dark. Dorsal region dull vinaceous buff, minutely varied with black and gray, becoming purer gray posteriorly, and dull yellowish gray on the sides. Inner edge of thighs buffy ; rest of lower parts pure white, with the usual pectoral collar of grayish brown. Ears small, externally dusky varied with gray, well clothed on both surfaces.

Measurements.—Total length (average of two adults), 353 ; tail vertebræ, 53 ; hind foot, 90 ; ear (from notch), 60.

Type, No. $\frac{994}{7402}$, ♂ ad., Hill City, Custer Co., S. Dak., Aug. 11, 1894 ; W. W. Granger.

Young in first pelage resemble the adults in coloration, except that the tints are duller.

This is a mountain form, comparable with *L. s. pinetis* of the White Mountains of Arizona (see this Bulletin, VI, 1894, p. 348), which form it strongly recalls in its dark coloration and small hairy ears. Its coloration is in strong contrast with that of the form inhabiting the adjoining open country to the eastward, the pale yellowish tints of the latter being replaced in the mountain form by pale vinaceous.

11. *Erethizon epizanthus* Brandt. YELLOW-HAIRED PORCUPINE.—“ Not uncommon along the Cheyenne, and in the Bad Lands.”—W. W. G.

12. *Geomys lutescens* Merriam. LUTESCENT POCKET GOPHER.—Long Island, Phillips Co., Kans., Sept. 16–Oct. 13, 5 specimens.

13. *Thomomys talpoides* (Rich.). GRAY POCKET GOPHER.—Corral Draw, May 23–June 14, 4 specimens ; Spring Creek, July 5, 1 specimen ; Custer, July 27, 1 specimen. As shown by the above list of localities, this species is found not only in the prairie country at the base of the Black Hills, but in the small parks in the Black Hills, at an altitude of 5500 feet.

14. *Perodipus richardsoni* Allen. RICHARDSON'S KANGAROO RAT.—Pendennis, Lane Co., Kans., May 8, 1 specimen (♀ ad.) ; Cheyenne River, Custer Co., S. Dak., July 7–10, 3 specimens (1 ♂ ad. and 2 ♀♀ im.).

15. *Perognathus paradoxus* Merriam. LARGE POCKET MOUSE.—Pendennis, Kans., May 8, 1 specimen (♂ ad.); Corral Draw, Aug. 23–25, 8 specimens, including three quarter-grown young; Corral Draw, Aug. 27, 1 specimen (a nursling).

The young in first pelage differ greatly in coloration from the adults, the whole dorsal surface being drab-gray, with no trace of a fulvous lateral line. At the next stage, or when about one-fourth grown, they are fuliginous brown above, varied with fulvous-tipped hairs, with, however, the fulvous lateral line well developed, but in general coloration still very unlike the adults.

16. *Perognathus fasciatus* Wied. MAXIMILIAN'S POCKET MOUSE.—Cheyenne River, July 7, 1 specimen (♂ im.); Corral Draw, Aug. 20–27, 5 specimens (♂ and ♀ ad., and three young about one-third grown).

Very young specimens show only a faint trace of the pale yellow lateral line, and they are grayer above with less olive than adults.

17. *Zapus princeps* Allen. ROCKY MOUNTAIN JUMPING MOUSE.—Two specimens (one a skull only without skin), collected Aug. 6 at Corral Draw, are provisionally referred to this species. While closely agreeing with this species in coloration and in cranial characters, it differs from it in the possession of much larger ears, in this respect resembling *Z. trinotatus* Rhoads.

18. *Fiber zibethicus pallidus* Mearns. PALE MUSKRAT.—Custer, Aug. 4–9, 7 specimens; Hill City, Aug. 10, 2 specimens. These examples seem quite as pale and as small as typical specimens of *pallidus* from Arizona. Unfortunately, however, measurements taken from the fresh specimens are lacking.

“Common on nearly all of the creeks which have their origin in the Black Hills.”—W. W. G.

19. *Microtus (Mynomes) longicaudus* (Merriam). — LONG-TAILED MEADOW MOUSE.

Arvicola (Mynomes) longicaudus MERRIAM, Am. Nat. Oct. 1888, p. 935. Custer, S. Dakota.

Three adult specimens, collected at Custer (the type locality of the species), July 25-Aug. 9.

20. *Microtus (Mynomes) insperatus* Allen. BLACK HILLS MEADOW MOUSE.

Arvicola insperatus ALLEN, Bull. Am. Mus. Nat. Hist. VI, 1894, p. 347.

Four specimens, Custer, July 25-Aug. 9, and one specimen, Hill City, Aug. 11, as already noted (*cf.* this Bulletin, l. c.).

This may be a form of *M. pennsylvanicus* (= *riparius* auct.), but it is much paler and grayer than specimens from the Atlantic Coast region, the difference in coloration being striking.

"I found these mice in the same localities as the other species [*M. longicaudus*]. Some were caught on a hillside which was covered with aspens, and the rest along the banks of a creek."—W. W. G.

21. *Microtus (Pedomys) haydenii* (Baird). HAYDEN'S MEADOW MOUSE.—One specimen, Spring Creek, June 22. (*Cf.* this Bulletin, VI, 1894, pp. 328-330.)

22. *Evotomys gapperi brevicaudus* Merriam. BLACK HILLS RED-BACKED MOUSE.—Custer (type locality of the species), July 25-Aug. 9, 19 specimens; Hill City, Aug. 10, 1 specimen. Eight specimens of the 20 are more or less immature. The 12 adults give the following measurements: 7 males, total length, 131 (120.6-146); tail vertebræ, 36 (33-39); hind foot, 19.5 (19-20.5); 5 females, total length, 140 (130-146); tail vertebræ, 37 (35-39.6); hind foot, 19.8 (19-20.5). The females thus average slightly larger than the males.

Compared with *E. gapperi* from New Brunswick, the red of the dorsal region is darker and the sides are much grayer, with almost none of the strong yellowish tint seen in *E. gapperi*. It is also somewhat smaller, 20 adults of *E. gapperi* (10 ♂♂ and 10 ♀♀) from Trousers Lake, N. B., measuring as follows: Total length, 141 (130-162); tail vertebræ, 40 (35-45); hind foot, 19.3. The corresponding averages for the 12 Black Hills specimens are 134, 36.7, and 19.6. The ears in *brevicaudus*, as stated by Dr. Merriam, are conspicuously larger than in *gapperi*.

23. *Onychomys leucogaster* (Wied). MISSOURI GRASS-HOPPER MOUSE.—Represented by 6 specimens, all adult, collected at Pendennis, Lane Co., Kans., May 8–10.

24. *Peromyscus leucopus arcticus* (Mearns). ARCTIC WHITE-FOOTED MOUSE.—The Black Hills form of *Peromyscus leucopus* seems distinctly referable to *arcticus*. As a series the Black Hills specimens tend to a slight fulvous wash, but a large part of them fairly match a small series from Osler, Saskatchewan, received in exchange from Mr. Outram Bangs, two of which are labeled by Mr. Bangs as “almost perfect matches of the type [of *arcticus*, from Fort Simpson, H. B. T.] in color, length of tail, etc.”

I refer to this form two series, one of 39 specimens, collected at Custer (alt. 5500 feet), July 25–Aug. 9, and another of 20 specimens, collected on Squaw Creek, “just in the edge of the pine forests of the Black Hills,” July 20–22. The Custer series is uniformly dark, only a few specimens presenting any decided fulvous or reddish wash. The Squaw Creek series is similar in coloration, except that it contains one specimen (No. 9370) strongly approaching the characteristic fulvous tint of *nebrascensis*, to which form it should perhaps be referred.

Nineteen specimens from Custer give the following measurements: 10 males, total length, 149 (140–165); tail vertebræ, 65 (57–76); hind foot, 20.3 (19–22): 9 females, total length, 143 (128.5–162); tail vertebræ, 61 (50–73); hind foot, 19.3 (17.5–20–5).

25. *Peromyscus leucopus nebrascensis* (Mearns¹). FULVOUS WHITE-FOOTED MOUSE.—Many of the specimens here referred to *nebrascensis* agree perfectly with the series on which *nebrascensis* Mearns was based (all October specimens, from the

¹ Baird (Mam. N. Am., 1857, p. 462, in text, lines 5 and 6) makes the following reference to a var. *nebrascensis*: “Judging from the color and the extreme shortness of tail, I am inclined to believe that Richardson’s species [*Mus leucopus*] is the *Hesperomys sonoriensis*, var. *nebrascensis*.” He gave no description or diagnosis, and nowhere else employed the name, which was thus a *nomen nudum*, till defined and duly installed by Mearns in 1890 (this Bulletin, II, No. 4, Feb., 1890, p. 287). Apparently he intended at one time to adopt this name for the Upper Missouri specimens, but later decided to refer them to *sonoriensis*, and finally based, as he states (l. c., p. 474), his description of his *Hesperomys sonoriensis* on specimens “from the Upper Missouri.”—In other words, the Plains region from South Dakota north to northern Montana, as shown by his table of specimens. The basis of Mearns’s *nebrascensis* is a series of seven specimens from the northwestern part of Custer Co., Montana, belonging to this Museum.

plains north of the Yellowstone), but the midsummer adults are bright golden brown above, and hence much more strongly fulvous than fall specimens of *nebrascensis*. The midsummer adults of the Granger collection are, however, paler, or yellower, than true *texanus*.

The Granger specimens referred to this form are (1) a series of 16 collected on Spring Creek, at the edge of the Bad Lands, June 19-23; (2) a series of 6 collected on Cheyenne River, bordering the Bad Lands, July 7-12; (3) a series of 34, collected at Corral Draw, in the Bad Lands, May 16-June 6; (4) a series of 11 collected at the same locality, August 19-27.

The adult August specimens agree well with the type series of *nebrascensis*; the May, June and July adults are many of them much brighter and more golden, while many others are not distinguishable from fall specimens of the type series. Doubtless the lighter and more yellowish coloration of the May and June and early July specimens is a seasonal feature.

Thirty adult specimens from Corral Draw give the following measurements: 15 males, total length, 157.5 (144-165); tail vertebræ, 66 (59-71); hind foot, 19.5 (17.5-20.5): 15 females, total length, 156.5 (144.5-173); tail vertebræ, 65 (60-76); hind foot, 19.3 (17.5-20.5). There is thus practically no sexual difference in size.

The difference in color between the series from the arid Bad Lands (*nebrascensis*) and the Black Hills series (*arcticus*) is remarkably striking, affording an excellent illustration of the influence of environment.

26. *Peromyscus leucopus texanus* (Waterhouse). TEXAN WHITE-FOOTED MOUSE.—Two specimens from Pendennis, Lane Co., Kans. (May 8-10), and one from Long Island, Phillips Co., Kans. (Oct. 6), are provisionally referred to this subspecies.

27. *Neotoma campestris* Allen. PLAINS WOOD RAT.—Pendennis, Kans., May 8; 10 specimens, as already recorded (this Bulletin, VI, 1894, p. 322).

"The ten specimens obtained were all taken in a single cañon. The rocky sides of the cañon afforded excellent retreats for the

rats. They build large bulky nests, under shelving rocks, consisting of several bushels of prickly pear (cacti), 'cow chips,' sticks, and weeds. The animals were very unsuspicious and easily trapped."—W. W. G.

28. *Neotoma rupicola* Allen. BAD LANDS RAT.—Corral Draw, June 7 and Aug. 20-27; 35 specimens, as already recorded (this Bulletin, VI, pp. 323, 324).

"This was a common species in the Bad Lands, where it lives in small caves and crevices along the 'draws' and cañons, and in hollow cottonwoods at the bottom of the draws. It builds small nests of cacti. It is occasionally found at the ranches along the Cheyenne River."—W. W. G.

29. *Neotoma grangeri* Allen. BLACK HILLS WOOD RAT.—Custer, July 25-Aug. 9, 14 specimens; Glendale, Sept. 8, 2 specimens. (For previous record see this Bulletin, VI, pp. 324, 325.)

"Inhabits the ranches and log cabins. Nearly every deserted log cabin contained a brood of them at the time of my first visit to the Black Hills (July 24 to Aug. 11). At Glendale Mine I trapped two or three in the mill, where they had done much damage by destroying the leather lacings of the belting. A small nest is sometimes built, which is very different from that made by *N. campestris*."—W. W. G.

30. *Mus decumanus* Pall. BROWN RAT.—Long Island, Kans., Sept. 14-16, 11 specimens.

31. *Mus musculus* Linn. HOUSE MOUSE.—Spring Creek, 2 specimens; Squaw Creek, 1 specimen; Glendale, 1 specimen; Long Island, Kans., 2 specimens.

32. *Sciurus niger ludovicianus* (Custis). WESTERN FOX SQUIRREL.—Long Island, Kans., Oct. 7-16, 4 specimens. They are all small (probably young of the year), with the ventral surface wholly white, or white slightly blotched or washed with pale fulvous. They are not apparently otherwise different from average Illinois specimens, which are also often white-bellied.

33. *Sciurus hudsonicus dakotensis* Allen. BLACK HILLS CHICKAREE.—Squaw Creek, July 21–23, 3 specimens; Glendale, Sept. 3–5, 7 specimens, as already recorded (this Bulletin, VI, pp. 325, 326).

“A common animal throughout the timber. Similar in habits to the Eastern Chickaree, from which it differs, however, slightly in its notes.”—W. W. G.

34. *Tamias minimus* Bach. PALE CHIPMUNK.—Corral Draw, May 16–June 7, 7 specimens; same locality, Aug. 21–27, 8 specimens. The May specimens are faded, but are not yet in molt; the June specimens are much worn and were molting; the August specimens have nearly all acquired the new dress, and are much more strongly colored than the May and June specimens.

35. *Tamias quadrivittatus borealis* Allen. NORTHERN CHIPMUNK.—Squaw Creek, July 24, 1 specimen; Custer, Aug. 4, 4 specimens; Glendale, Sept. 4, 5, 13 specimens. The series is quite uniform in coloration, all of the specimens being in post-breeding dress. They are of course all from the wooded region of the Black Hills, and in coloration are in striking contrast with the series of *T. minimus* from the adjoining Bad Lands.

36. *Spermophilus' tridecemlineatus pallidus* Allen. PALE STRIPED SPERMOPHILE.—Pendennis, Kans., May 8, 1 specimen; Long Island, Kans., Sept. 15–18, 3 specimens; Spring Creek, S. Dak., July 4, 1 specimen; Custer, S. Dak., July 24–29, 19 specimens.

37. *Cynomys ludovicianus* (Ord). MISSOURI PRAIRIE DOG.—Corral Draw, June 25, 4 specimens; Cheyenne River, July 13, 3 specimens; Long Island, Kans., Sept. 15, 1 specimen.

The June specimens are still in the soft coat of winter, and in three of them the coarse over-hair has either been cast or has

¹ In this volume of the Bulletin (*antea*, p. 337) I hastily followed Dr. Merriam in substituting *Anisonyx* for *Spermophilus*. While *Anisonyx* Rafinesque is pertinent and antedates *Spermophilus*, it is preoccupied by use ten years earlier by Latreille (Gen. Crust. et Insect, II, 1807, p. 119) for a genus of Coleoptera—a fact that might easily have been discovered by reference to the ‘Nomenclator Zoologicus’ of either Agassiz or Scudder. Dr. Merriam has recently corrected the unfortunate error (Science, N. Ser., II, No. 30, p. 107, July 26, 1895).

worn off so that very little of it remains, leaving the general coloration yellowish instead of reddish. The July specimens have nearly completed the spring molt, though one of them still retains the winter coat over the posterior fifth of the body, showing that the coat is renewed in spring from the head posteriorly. The September (Kansas) specimen is also in mixed coat, the summer pelage still clothing the top of the head, nape and shoulders, while the rest of the dorsal surface is clothed with the new winter coat, showing that the fall molt begins at the posterior part of the body and proceeds gradually towards the head.

38. *Arctomys dacota* Merriam. BLACK HILLS MARMOT.—Four specimens, three adult and one half grown, Custer, July 26–29. These specimens are from the type locality of the species; they are very uniform in coloration, and agree so well with the original description as to leave nothing to be added, except to make record of the measurements for future reference.

9138 ♀ ad.	Total length, 622 ;	tail vertebræ, 179 ;	hind foot, 84.
9139 ♂ ad.	“ 635 ;	“ 179 ;	“ 84.
9140 ♂ ad.	“ 622 ;	“ 178 ;	“ 84.
9141 ♀ juv.	“ 457 ;	“ 152 ;	“ 78.

“I found the Woodchucks at an altitude of about 5000 feet in the Hills, where they were fairly common, and confined almost entirely to the rocky cliffs.”—W. W. G.

39. *Castor canadensis* Kuhl. BEAVER.—No specimens were taken, but Mr. Granger contributes the following note: “Rapidly becoming exterminated. There is a small colony near the mouth of Spring Creek, and two trappers took ten from Battle Creek in the winter of 1893–94.”—W. W. G.

40. *Corynorhinus townsendii* (Cooper). TOWNSEND'S BAT.—Three specimens, Cheyenne River, July 8–12. Alar expanse, 308 (305–310); total length, 104; tail vertebræ, 46; hind foot, 9.4.

This seems to be a rare bat in collections. It was originally described from “Columbia River” specimens, and was recorded by Dr. H. Allen (Mon. N. Am. Bats, p. 66) in 1864 from “Utah,” and “Upper Missouri,” the latter record being based on a single specimen collected by Dr. F. V. Hayden. In his later Monograph

(1894, p. 60) he records only these same examples. Dobson, in 1878 (Cat. Chirop., p. 181) records a single specimen from Vancouver Island. In this Museum there are three specimens from Arizona (Fort Verde, Mearns; Pinal Co., Scott; and Prescott, Keays) and one from Guadalajara, Mexico (Buller), which I provisionally refer to this species.

41. *Adelonycteris fusca* (Beauvois). BROWN BAT.—Three specimens from Corral Draw and one from Squaw Creek are very much paler than any examples of this species I have seen from other localities. They seem to indicate the existence of a pale race of this species in this region of pallid forms.

42. *Vespertilio ciliolabrum* Merriam. LITTLE PALE BAT.—This small, pale bat is represented by 7 specimens, 6 of which are males, taken at Corral Draw, in the Bad Lands, May 16 to June 4, and one (the female) Aug. 19. The following are the average and extremes of the measurements recorded by the collector on the labels: Total length, 82 (79.5–85.5); tail vertebræ, 38 (36–39.6); hind foot, 7.9; alar expanse, 214 (201–223). This series is very uniform in coloration, the color of the upper parts being pale buffy white.

43. *Scalops aquaticus argentatus* (Aud. & Bach.). SILVERY MOLE.—Long Island, Kans., Oct. 6–19, 3 specimens. These are much lighter and more 'silvery' than Mississippi Valley specimens.

44. *Sorex forsteri* Rich. FORSTER'S SHREW.—The single specimen of Shrew, taken at Custer, July 25, has been kindly identified by Mr. Gerrit H. Miller, Jr., as above. The collector's measurements are: Total length, 87; tail vertebræ, 36; hind foot, 11. Sex, ♀ ad.

45. *Putorius longicauda* Bon. LONG-TAILED WEASEL.—Custer, July 29, ♂ ad. Total length, 366; tail vertebræ, 132; hind foot, 40. Hill City, Aug. 10, ♂ ad. Total length, 386; tail vertebræ, 135; hind foot, 40. There is an additional skull, without skin, from Custer.

46. *Lutreola vison* (*Schreb.*). MINK.—Long Island, Kans., Oct. 10, ♂ ad. Total length, 625; tail vertebræ, 200; hind foot, 66.

47. *Spilogale interrupta* (*Raf.*). BLACK-TAILED STRIPED SKUNK.—Long Island, Kans., Oct. 10-30, 3 specimens.

9130 ♀ ad.	Total length, 546;	tail vertebræ, 208;	hind foot, 51.
9131 ♂ juv.	" 484;	" 181;	" 51.
9132 ♂ juv.	" 433;	" 184;	" 43.

48. *Mephitis mesomelas* *Licht.* TEXAS SKUNK.—Custer, Aug. 8, ♂ ad., skin and skull and an additional skull; Long Island, Kans., Oct. 10-13, 3 specimens.

These specimens are all referred to this form, to which Kansas specimens seem undoubtedly to belong. The single Black Hills skin is immature, but seems to be best referred here.

49. *Taxidea taxus* *Schreb.* BADGER.—Cheyenne River, July 13, ♀ juv.

50. *Canis lupus nubilus* (*Say*). GRAY WOLF.—“Not uncommon at all the localities visited. Along Cheyenne River a good many cattle and colts are annually destroyed by them. I saw three Wolves kill a calf in Corral Draw one evening.”—W. W. G.

51. *Canis latrans* *Say*. COYOTE.—“More common than the Wolves.”—W. W. G.

52. *Vulpes* (? *macrourus* *Baird*). “There was a den of Red Foxes in one of the draws in the Bad Lands, but I was unable to obtain any of them.”—W. W. G.

53. *Lynx* (sp.—?).—“Several Lynxes have been killed along Spring Creek during the last two years. They also exist in the Bad Lands and in the Black Hills in some numbers.”—W. W. G.

Probably *L. rufus* and *L. canadensis* are both found in the region under consideration.