

Article XVIII.—LIST OF MAMMALS COLLECTED IN
ALASKA BY THE ANDREW J. STONE
EXPEDITION OF 1901.

By J. A. ALLEN.

The Andrew J. Stone Expedition was organized early in the year 1901, for the purpose, mainly, of securing mammals and birds from arctic and subarctic America, and incidentally from more southern points, as circumstances may favor, for the American Museum of Natural History. As at present planned, the work of the expedition will cover a period of three years, under the leadership of Mr. Stone, who has in previous years collected extensively for the American Museum in northern British Columbia, Alaska, and the Northwest Territory, under the patronage of the late James M. Constable, First Vice-President of the Museum. Mr. Constable made conditional provision for the further prosecution of the work, through an offer to contribute \$2000 annually for three years contingent upon the raising of \$3000 a year from other sources, making a total annual sum of \$5000. The Museum is indebted to Miss Phebe A. Thorne for a further gift of \$1000 a year for the period named, the remaining annual contingent of \$2000 having been secured through the efforts of Mr. Madison Grant, Secretary of the New York Zoölogical Society, to whom the Museum is thus greatly indebted. The stipulated fund was completed in April, 1901.

Mr. Stone, with two assistants — Mr. J. D. Figgins of the Museum and Mr. Albert H. Mehner of Seattle,— left Seattle June 10, reaching Valdez, Alaska, June 19, and Homer June 21. After securing a boat and two native assistants, the party left Homer June 28, and proceeded to the head of Chugachik Bay, and thence up Sheep Creek, where a permanent camp was established, twenty miles above the mouth of the creek. On July 9 the wooded foothills were crossed and a temporary camp was made at the base of the Kenai

Mountains, where work was prosecuted till August 15, the highest altitude reached being about 4000 feet. Here a fine series of White Sheep was secured, as well as a Black Bear, a Wolverine, and many small mammals and birds. The party then returned to the permanent camp at the head of Sheep Creek, and later (August 21) returned to Homer, after many interruptions in their work from fog and storms.

On August 31 a second trip was made from Homer, back into the hills, undertaken especially to obtain Moose. For two weeks the search for these animals proved fruitless, but later several fine specimens were secured, and many small mammals and birds were obtained. The party returned to Homer on October 4, and preparations were immediately made for a trip to the western part of the Alaska Peninsula. Mr. Mehner returned to Seattle, and Mr. Stone and Mr. Figgins, after putting the collections in order for shipping, left on the little steamer 'Newport,' reaching Sand Point, Popof Island, October 19. The party was here storm-bound till October 26, when, with two helpers from Unga Island, the passage was made in open boats across Unga Strait to the mainland, a distance of about twelve miles. On October 30 nine head of Caribou were secured, and later, after much delay from stormy weather, others were obtained. The return to Sand Point, Popof Island, was made on November 10. The steamer for Kadiak did not arrive till December 5, and the enforced stay at Popof Island was utilized in securing large series of the small mammals and birds, and such other specimens as could be obtained. Owing to the lateness of the season the trip to the Alaska Peninsula, undertaken primarily for Caribou, which it was correctly supposed by Mr. Stone would prove new to science, was an undertaking of considerable peril and hardship, but it proved eminently successful. Besides the large series of the new Caribou, a large Bear, a Fox, a Seal, and a large number of small mammals and birds were secured. Owing to delay at Valdez for transportation southward, the party did not reach Seattle till January 2, 1902, after an absence of about seven months.

The collections obtained on this expedition prove of great

scientific interest and add a large amount of important material from a portion of North America previously almost unrepresented in our Museum collections. The large series of White Sheep from the Kenai Peninsula, the Caribou from the Alaska Peninsula, the Moose, Black and Grizzly Bears, the Shrews and Voles and other small mammals, and the birds, furnish excellent and much-needed material for exhibition and fill many important gaps in the study series. A few of the larger mammals were undescribed,¹ and many of the smaller ones have become known only within the last two or three years; they are still rare in collections and were previously wholly unrepresented in the Museum collection.

The present paper gives a list of the mammals obtained, numbering 26 species and 350 specimens, with field notes on the smaller species by Mr. Figgins. Only such species are mentioned as are represented by specimens. A list of the birds, by Mr. Chapman, follows the present article.

In September and October, 1900, Mr. Stone spent several weeks on Kenai Peninsula collecting large mammals for the Museum; mention of these specimens is included in the present report.

Two recent papers relating especially to the mammals of the Kenai Peninsula region are of interest in the present connection, namely: (1) 'Natural History of the Cook Inlet Region, Alaska.' By Wilfred H. Osgood, *N. Am. Fauna*, No. 2, Sept., 1901, pp. 51-81 (mammals, pp. 61-71, 35 species). (2) 'Notes on Mammals and Birds observed in southern Alaska in 1901.' By J. Alden Loring. *Sixth Annual Report of the New York Zoölogical Society*, April, 1902, pp. 145-154 (26 species).

I am indebted to Dr. C. Hart Merriam, Chief of the Biological Survey, Department of Agriculture, and to Mr. Gerritt S. Miller, Jr., of the United States National Museum, for their kindness in loaning me material for comparison in determining some of the more difficult species of the collection.

¹ The following papers, published in this Bulletin during the last few months, were based on the present collection: (1) A new Caribou from the Alaska Peninsula (*antea*, pp. 119-127, figs. 1-6, March 31, 1902); (2) A new Bear from the Alaska Peninsula (*antea*, pp. 141-143, pl. xxx and xxxi); (3) A new Sheep from the Kenai Peninsula (*antea*, pp. 145-148, figs. 1, 2).

1. *Lagenorhynchus obliquidens* Gill. STRIPED DOLPHIN.

Lagenorhynchus obliquidens GILL, Proc. Acad. Nat. Sci. Phila. 1865, 177. — TRUE, Contr. Nat. Hist. Cetaceans, Bull. No. 36, U. S. Nat. Mus. 1889, 96, 172, pl. xxvii.

One specimen, a complete skeleton, Valdez, Alaska, June 19.

2. *Paralces gigas* (Miller). ALASKA MOOSE.

Alces gigas MILLER, Proc. Biol. Soc. Wash. XIII, 1899, 57, May 29, 1899. — STONE, Deer Family (by Roosevelt, Van Dyke, Elliot, and Stone), 1902, 291-325 (*passim*), and 4 half-tone plates.

Paralces gigas ALLEN, Bull. Am. Mus. Nat. Hist. XVI, 160, July 1, 1902.

On Mr. Stone's first visit to the Kenai Peninsula in September and October, 1900, he obtained three fine adult males of this species, two young males, and two young females. In September (Sept. 15 to 30), 1901, two more fine old males and two three-year-old males were secured, making altogether a series of 10 specimens. These are accompanied by full measurements, from which it appears that the adult males attain a length of about 9 feet (2743 mm.), and a height at the shoulders of 6½ feet (1981 mm.). Mr. Stone, in his recent article on the Moose of North America (Deer Family, *l. c.*, p. 300), gives the average spread of the antlers as 65 inches (1652 mm.), and the maximum of those he has seen as 74 inches (1870 mm.). Mr. Stone, in the paper above cited, gives much interesting information respecting the habits, distribution, and external characters of the Moose of North America as observed by him in Alaska, British Columbia, and the Northwest Territory.

3. *Rangifer stonei* Allen. STONE'S CARIBOU.

Rangifer stonei ALLEN, Bull. Am. Mus. Nat. Hist. XIV, 143, figs. 1-4, May 28, 1901 (Kenai Peninsula); *ibid.* XVI, 126, March 31, 1902 (in text). — OSGOOD, N. Am. Fauna, No. 21, 61, Sept. 26, 1901. — LORING, Sixth Ann. Rep. N. Y. Zool. Soc. 145, April 1, 1902.

Caribou of the Kenai Peninsula, Alaska, ELLIOT, Publ. Field Col. Mus. Zool. Ser. III, No. 5, July, 1901.

This Caribou is nearly extinct on the Kenai Peninsula. Mr. Stone failed to obtain any specimens during his long stay on the Peninsula in 1901. He says: "I did not go into the Caribou hills on the Kenai Peninsula for the reason that there were more hunters in these hills than there were Caribou. A strong effort was made by Mr. Herbert's hunting party, for Caribou, without success." Mr. Loring reports the existence of Caribou in the mountains of the Shushitna River district, which he believes are referable to this species.

4. **Rangifer granti** Allen. GRANT'S CARIBOU.

Rangifer granti ALLEN, Bull. Am. Mus. Nat. Hist. XVI, 122, March 31, 1902.

There is nothing to add to the account of this species already given (*l. c.*, pp. 119-127, figs. 1-6).

5. **Ovis dalli kenaiensis** Allen. KENAI WHITE SHEEP.

Ovis dalli OSGOOD, N. Am. Fauna, No. 21, 62, Sept. 1901.—LORING, Sixth Ann. Rep. N. Y. Zool. Soc. April, 1902, 143, 146. Habits and decrease in numbers.

Ovis dalli kenaiensis ALLEN, Bull. Am. Mus. XVI, 145-148, figs. 1 and 2, April 23, 1902.

A series of 14 specimens was taken on Sheep Creek, Kenai Peninsula, July 10 to August 14, 1901. An account of them has been given in a previous paper (*l. c.*).

The range of *Ovis dalli kenaiensis* is quite disconnected from that of *Ovis dalli*, the two being separated by an extensive area not inhabited by either form.

6. **Sciurus hudsonicus** *Erxleben*. HUDSON BAY RED SQUIRREL.

Sciurus hudsonicus OSGOOD, N. Am. Fauna, No. 21, 63, Sept. 1901.—LORING, Sixth Ann. Rep. N. Y. Zool. Soc. April, 1902, 148.

Nine specimens, July, August, and September. All are in post-breeding pelage and hence very different from winter specimens.

"Found throughout the timber belt, but nowhere abundant. Nests were seldom seen in trees, and they appear to spend

much of their time underground. They occupy one locality for a long time, as shown by the large piles of gnawed pine cones at the entrances to their underground passages. They seem to feed entirely on the buds and cones of the spruce."—J. D. F.

7. *Arctomys pruinosus* *Gmelin.* HOARY MARMOT.

Arctomys caligatus OSGOOD, N. Am. Fauna, No. 21, 63, Sept. 1901.

Arctomys pruinosus LORING, Sixth Ann. Rep. N. Y. Zool. Soc. April, 1902, 148.

Two half-grown males, Kenai Mountains, July 16, and an additional skull.

"Contrary to our anticipations, we found the marmot very uncommon on the Kenai Peninsula. One pair with young was found on the barren ground between the forks of Sheep Creek, at an altitude of about 5200 feet. Their 'den' had no doubt been used for many years, as shown by the mound of earth they had thrown up, and the growth of vegetation that covered its sides. The height of the mound and the rankness of the vegetation growing upon it made it a conspicuous object, visible for nearly half a mile. When the 'den' was approached the marmots abandoned it, with cries of protest, and took refuge in the adjacent rock-slides, where trapping was nearly impossible. This family was at first not shy and could be easily approached, but after two of their number had been trapped they became very wary and were seldom seen though often heard. Another den was seen, but it was apparently not inhabited."—J. D. F.

8. *Evotomys dawsoni* *Merriam.* DAWSON RED-BACKED MOUSE.

Evotomys dawsoni MERRIAM, Am. Nat. XXII, 649, July, 1888. Finlayson River, N. W. T. — OSGOOD, N. Am. Fauna, No. 21, 64, Sept. 26, 1901.

? *Evotomys orca* MERRIAM, Proc. Wash. Acad. Sci. II, 24, March 14, 1900. Orca, Prince William Sound, Alaska.

Evotomys dawsoni orca LORING, N. Am. Fauna, No. 21, 64 (in text), Sept. 26, 1901.

The 35 specimens were collected as follows: Sheep Creek, 7 specimens, July 6 and August 17 and 18; Kenai Mountains, 16 specimens, July 13 to August 15; in the hills back of Homer, 12 specimens, August 21 to September 19. About two thirds of the specimens are adults and the rest in various stages of immaturity.

These specimens should be referable to *Evotomys dawsoni orca* rather than to true *dawsoni*. They seem, however, not to differ appreciably from specimens collected previously by Mr. Stone on Telegraph Creek, the Liard River country, and at Fort Norman. Mr. Osgood (*l. c.*) seems to have had difficulty in satisfactorily determining his large series from near Hope and Tyonek, localities somewhat to the northward of the Kenai Peninsula.

"This mouse was not common at any point visited, but was found throughout the timber belt from tidewater to its upper limit."—J. D. F.

9. ***Microtus kadiacensis* Merriam.** KADIAK VOLE.

Microtus kadiacensis MERRIAM, Proc. Biol. Soc. Wash. XI, 222, July 15, 1897. Kadiak Island.

Microtus operarius kadiacensis OSGOOD, N. Am. Fauna, No. 21, 64, Sept. 26, 1901.

A single immature specimen (about half-grown) is provisionally referred to this species. It was taken in the hills back of Homer, Sept. 8.

10. ***Microtus miurus* Osgood.** ALASKA MOUNTAIN VOLE.

Microtus miurus OSGOOD, N. Am. Fauna, No. 21, Sept. 26, 1901, 64. Mountains, near Hope City, Turnagain Arm, Cook Inlet, Alaska.

Represented by 8 specimens, only one of which is adult, the others being from one fourth to one half grown. They were all taken in the Kenai Mountains, July 5, 20, and 22.

"Met with only in a small valley between ridges near the top of the Kenai Mountains at an altitude of about 5000 feet. The space occupied by this colony was an area about 200 feet long by about 40 feet in width. Old 'signs' of them were

abundant in the higher barren grounds. These signs consisted of burrows or holes in the ground, without, however, any indication that they were formed by excavation from above, as no earth was brought out to the surface. Neither do they appear to construct runways through the grass, as most other voles do. Apparently they spend but little time above ground except when feeding. Freshly cut sprays of lupine and grasses were always found just at the edge of the holes, as though placed there for a convenient food supply.

"These mice are cannibals of the most pronounced type, and for this reason very few perfect specimens could be obtained. They also proved very difficult to trap, although many kinds of bait were tried. As soon as a specimen was trapped it was immediately attacked and usually devoured or so mutilated as to be worthless for a specimen."—J. D. F.

II. ***Microtus unalascensis popofensis* Merriam.** POPOF
ISLAND VOLE.

Microtus unalascensis popofensis MERRIAM, Proc. Wash. Acad. Sci. II, 22, March 14, 1900. Popof Island, Alaska. — BAILEY, N. Am. Fauna, No. 17, 42, June 6, 1900.

This species is represented by 72 specimens, all taken at Sand Point, Popof Island, the type locality, in October (Oct. 20–23) and November (Nov. 13–30), by Mr. J. D. Figgins. All are practically adult, as regards color and pelage, but the series includes many young adults, as shown by the skulls. The series includes 41 males and 31 females. There is a slight sexual difference in size, the males averaging slightly the larger, as follows: Total length, ♂♂ 165 (155–210), ♀♀ 159 (155–203); tail, ♂♂ 32 (25–51), ♀♀ 31 (25–38); hind foot, ♂♂ 22.2 (20.6–23.9), ♀♀ 22.3 (20.6–25). Size is obviously no criterion of sex. The above statistics include all the specimens of the series. The average is practically the same as that given by Mr. Bailey for a series of three topotypes, except as to the tail, where there is a discrepancy of 6 mm., due probably to different methods of measuring.

The following analysis of the above is of interest: Of the

72 specimens, 4 males and 12 females fall below 6 inches (152.4 mm.) in total length; 4 males and 7 females have a length of 7 inches (177.8 mm.) or more; and 33 males and 12 females measure 6 to 6.75 inches (152.4 to 171.5 mm.). The tail length in 9 males and 7 females falls below 1.25 in. (31.75 mm.), 5 males and 3 females have the tail length 1.50 in. (38.1 mm.) or more, and in 34 males and 13 females the tail length is 1.25 to 1.50 in. (31.75 to 38.1 mm.). In 3 males and 6 females the length of the hind foot is less than .875 in. (22.2 mm.), in 4 males and 2 females it slightly exceeds this length, while in 34 males and 23 females, the length as recorded by the collector is 22.2 mm.

As usual in large series of small mammals a few specimens far exceed the average in size, being the giants of their race, while others, equally adult, fall greatly below the average. In the present series one female attains the length of 203 mm., and others range above 190, the average being about 160. One male reaches 210, and three others measure 197, against an average of 165.

The series as a whole is quite uniform in coloration, but extreme specimens are widely diverse, although all were taken late in autumn during a period of about five weeks. A few specimens represent a pale or gray phase, in which the usual strong yellowish brown suffusion of the upper parts is greatly reduced, while in still other specimens it is greatly emphasized and darkened, so as to border on rufous with a stronger admixture of black-tipped hairs. The two extremes in coloration — the gray and the deep ruddy fulvous — might readily suggest specific differences, were it not that they are fully connected by intermediate stages.

The ventral surface varies from clear whitish gray to a strong suffusion of buff; in average specimens the ventral surface is tinged with pale buff.

“Popof Island was literally overrun with these mice. Since the extermination of the foxes here there appears to be no check upon their increase, and they have become a nuisance. Their habits greatly resemble those of the common meadow mouse of the East. They construct roadways by tunnelling

under the moss and muskeg where the vegetation is not sufficient to conceal them. In excavating their underground passages the dirt is brought to the surface. They appear to work almost constantly, as fresh dirt was noticed daily.

"At Sand Point an attempt at gardening proved a failure through their depredations, as they attacked the plants and destroyed everything. Mr. Libby of Unga Island assured me that he removed forty-five pounds of potatoes from one of their underground storehouses which they had pilfered from a nearby warehouse. The potatoes that were too large to be taken through their runways had been gnawed to reduce them to the proper size for transportation.

"These mice seldom took the bait from the traps but were readily taken by placing the traps in their runways. When traps were placed at the entrance to their underground runways the mice always covered the traps with moss, grass, and dirt. They are both nocturnal and diurnal in their habits. I found visits to the traps at night and morning yielded about equal catches."—J. D. F.

13. ***Erethizon epizanthus myops* Merriam.** ALASKA PORCUPINE.

Erethizon epizanthus myops MERRIAM, Proc. Wash. Acad. Sci. II, 27, March 14, 1900.—OSGOOD, N. Am. Fauna, No. 21, 66, Sept. 1900.—LORING, Sixth Ann. Rep. N. Y. Zoöl. Soc. April, 1902, 149.

One specimen, adult male, skin and skull, Alaska Peninsula, opposite Popof Island, Nov. 4; two skulls, Sheep Creek, August.

"Three or four of these animals were observed on the Alaska Peninsula during our short stay there, but only one was obtained. They are said to be abundant there. One was seen, possibly migrating, at an altitude of at least 2500 feet, on a bleak and barren peak, where the only vegetation was lichens. Its favorite haunt is the low ground near the coast, where the alder is abundant, and the overhanging banks of small streams afford safe retreats.

"They were also common on the south side of Kachimalo

Bay, Kenai Peninsula, especially along the small glacial streams, where spruce and cottonwood were abundant."—J. D. F.

14. **Lepus americanus dalli** Merriam. DALL VARYING HARE.

Lepus americanus dalli MERRIAM, Proc. Wash. Acad. Sci. II, 29, March 14, 1900. — OSGOOD, N. Am. Fauna, No. 21, 67, Sept. 1901.

Two specimens, an adult male and a half grown young, Sheep Creek, July 6.

"These were the only specimens seen, and the natives represented it as uncommon."—J. D. F.

15. **Phoca richardsi** (Gray). HARBOR SEAL.

Halicyon richardsi (*richardii* in error) GRAY, P. Z. S. 1864, 28.

A skin of a young specimen, taken on the Alaska Peninsula, opposite Popof Island, Nov. 7.

16. **Vulpes alascensis** Merriam. ALASKA RED FOX.

Vulpes alascensis MERRIAM, Proc. Wash. Acad. Sci. II, 668, Dec. 28, 1900.

One specimen, an adult female, Alaska Peninsula (opposite Popof Island), Oct. 31. Length, 1117 mm.; tail, 433; hind foot, 178. (For skull measurements see table under *V. kenaiensis*.)

This specimen agrees very well with Dr. Merriam's description of *V. alascensis*, except that the neck and shoulders are deep rufous rather than "golden fulvus."

The skull is apparently as large as that of *V. kenaiensis* (see table of measurements, p. 226), the skull (female) from the western end of the Alaska Peninsula nearly equalling in general dimensions those given for the male skull of *kenaiensis*, but the teeth, especially the upper carnassial and first molar, are very much smaller.

"Many fox tracks were seen along the beach of the Alaska Peninsula, and also trails in the grass ran from the streams in every direction. The first snow gave evidence that these trails were in use. The specimen taken was killed while feeding on a caribou carcass. The natives take hundreds of Red
[July, 1902.]

Fox skins to Sand Point each year, which they catch on the Alaska Peninsula."— J. D. F.

17. *Vulpes kenaiensis* Merriam. KENAI FOX.

Vulpes kenaiensis MERRIAM, Proc. Wash. Acad. Sci. II, 670, pl. xxxvi, fig. 5, Dec. 28, 1900.— OSGOOD, N. Am. Fauna, No. 21, 68, Sept. 1901.

This species was described from a single male skull, the "skin not seen," and hence "external characters unknown"; "pelage said to be softer and more valuable than the neighboring (*harrimani*), which has very coarse fur." It is said to differ from *V. harrimani* in being larger, with longer rostrum and larger teeth, etc.

The present collection contains two skulls from the Kenai Peninsula, but no skins. The skulls are fully adult, but not 'old'; they differ a little in size and probably represent both sexes. The largest one, however, falls decidedly below the measurements given by Dr. Merriam for the type, as shown by the subjoined table.

MEASUREMENTS OF SKULLS OF *Vulpes kenaiensis*.

		Basal length.	Basilar length.	Palatal length.	Postpalatal length.	Zygom. breadth.	Interorbital breadth.	Breadth of rostrum.	Length of pm ¹ .	Length of m ⁴ .
Type. ¹	♂ ad.	148	145	79	68.5	82.5	30.5	27	15.5	11
18064	ad.	138	129	70	60	74	27	23	15	10
18065	ad.	136.5	127	69	58.5	—	27	23	14	10
17946 ²	♀ ad.	144	136	76	61	78	31	26	14	10

"The only fox seen on Kenai Peninsula was a light gray specimen observed on the Kenai Mountains at an altitude of about 5000 feet. Fox signs were noted in the timber belt and on the bare hills to the west of Kachimalo Bay, where there were well-defined paths in the high grass at the top of the first bluff from the bay. One deserted den was found."— J. D. F.

¹ Measurements as given by Dr. Merriam, *l. c.*

² A very old female of *V. alascensis*, from western end of Alaska Peninsula, for comparison.

18. *Ursus merriami* Allen. BIG ALASKA BEAR.

Ursus merriami ALLEN, Bull. Am. Mus. Nat. Hist. XVI, 141, pl. xxx, xxxi (skull), April 12, 1902.

? *Ursus dalli gyas* MERRIAM, Proc. Biol. Soc. Wash. XV, 78, March 22, 1902.

There is nothing to add to the account already given (*l. c.*) of the two specimens of this bear obtained by Mr. Stone at the western end of the Alaska Peninsula, except to say that the type skull of *U. merriami* has since been compared with those on which Dr. Merriam based his *U. dalli gyas*. The type of *U. merriami* is unlike any of the latter, which are nearly all very old males, while the type of *U. merriami* is a rather young skull and probably a female. As *gyas* and *merriami* have been found at practically the same locality, and it being hardly probable that two distinct species of large bears occur together on this part of the Alaska Peninsula, it seems probable that additional material will show that *gyas* and *merriami* are the same, and that *gyas*, which has three weeks' priority over *merriami*, is the name that will have to be adopted for this large bear.

19. *Ursus horribilis alascensis* Merriam. ALASKA GRIZZLY.

Ursus horribilis alascensis MERRIAM, Proc. Biol. Soc. Wash. X, 74 (in text), April 13, 1896.—OSGOOD, N. Am. Fauna, No. 19, Oct. 1900, 41.

Ursus horribilis LORING, Sixth Ann. Rep. N. Y. Zool. Soc. April, 1902, 151.

Five specimens, all females, from the mountains south of Homer, all adults except one. Three were obtained in September, 1900, and the others in 1901.

20. *Ursus americanus* Pallas. BLACK BEAR.

Ursus americanus OSGOOD, N. Am. Fauna, No. 21, 68, Sept. 1901.—LORING, Sixth Ann. Rep. N. Y. Zool. Soc. April, 1902, 150.

Five skins with skulls, and 8 additional skulls, all from Kenai Peninsula; 6 were collected in September, 1900, and 7 during the season of 1901.

21. **Putorius arcticus kadiacensis** *Merriam.* TUNDRA
WEASEL.

Putorius arcticus kadiacensis MERRIAM, N. Am. Fauna, No. 11, 10,
16 (in text), June, 1896.

Putorius kadiacensis OSGOOD, N. Am. Fauna, No. 21, 69, Sept. 1901.

One specimen, an adult female, taken at Homer, June 22.

"Said to be common at Homer in the winter. One specimen was taken and two others were seen; no others were seen though every effort was made to secure additional specimens."
— J. D. F.

22. **Mustela americana actuosa** *Osgood.* ALASKA MARTIN.

Mustela americana actuosa OSGOOD, N. Am. Fauna, No. 19, 43, pl.
vii, fig. 2, Oct. 6, 1900.

A single skull from Kenai Peninsula (sex unknown) is provisionally referred to this subspecies, on account of its large size. It is much too large for *M. americana*, and though smaller than the male type of *actuosa*, may well be a female of that species.

23. **Gulo luscus** (*Linn.*). WOLVERENE.

One specimen, an adult male, Sheep Creek, July 27.

"Only one specimen was taken and one other seen. They were feeding on the carcass of a sheep."— J. D. F.

24. **Sorex obscurus shumaginensis** (*Merriam*). SHUMAGIN
ISLANDS SHREW.

Sorex alascensis shumaginensis MERRIAM, Proc. Wash. Acad. Sci. II,
18, March 14, 1900. Popof Island, Shumagin Islands, Alaska.

This shrew is represented by 57 specimens of which 52 were taken at Sand Point, Popof Island, Oct. 20-22 and Nov. 13-22, and 5 on the neighboring coast of the Alaska Peninsula, Nov. 1. The series contains considerably more females than males. About 10 are in the short brown pelage of summer, and 22 in the full long gray pelage of winter; the remaining 25 are in

mixed pelage of varying stages of change, from brown specimens in which the gray is coming in at the posterior end of the body to gray specimens in which the front of the head and sides of the neck and shoulders are the only parts still brown. They all appear to be practically adult as regards general size and pelage, but the skulls show that many are merely young adults. There is no very evident sexual difference in size. Twelve males and 16 females, taken at random, give the following measurements: Total length, males, 113 mm. (107-121), females, 114.5 (108-121); tail, males, 46 (44-50), females, 45 (43-48); hind foot, 13 (13-14) in both sexes.

Specimens in the brown pelage are much paler throughout than topotypes of *alascensis* (taken in July) in corresponding pelage. *S. shumaginensis* is also decidedly smaller than *alascensis*.

"On Popof Island, and on the adjoining part of the Alaska Peninsula, where timber is absent, shrews are extremely abundant."—J. D. F.

25. *Sorex obscurus alascensis* Merriam.

Sorex obscurus alascensis MERRIAM, N. Am. Fauna, No. 10, 76, Dec. 1895. Yakutat Bay.

Sorex alascensis shumaginensis OSGOOD, N. Am. Fauna, No. 21, 71, Sept. 1901. Hope and Tyonek, Kenai Peninsula.

This abundant species, represented by 73 specimens, was obtained at all points on the Kenai Peninsula where any collecting was done. Late in September it begins to pass into a gray winter pelage, as shown by specimens taken in the Kenai Mountains Sept. 19 and 26, one of which is almost entirely gray, while the other has a gray body and a brown head. The gray seems to be a darker shade than in the specimens of *S. o. shumaginensis* in corresponding pelage. In summer pelage the Kenai specimens are decidedly paler than topotypes of *alascensis* from Yakutat Bay.

Forty specimens, taken at random, and including about an equal number of males and females, measure as follows: Total length, 113 (107-121); tail, 47.7 (44.5-50.8); hind foot, 13 (12.7-14).

26. *Sorex personatus streatori* Merriam.

Sorex personatus streatori MERRIAM, N. Am. Fauna, No. 10, 62, Dec. 1895. Yakutat Bay.

Sorex personatus OSGOOD, N. Am. Fauna, No. 21, 70, Sept. 1901. Hope and Tyonek, Kenai Peninsula.

Apparently much less abundant than the preceding species, but occurs with it at all of the localities where collections were made. The 30 specimens were collected as follows: Kenai Mountains, August 2-9; Sheep Creek, August 17, 18; hills near Homer, Sept. 6-26.

Sixteen specimens measure as follows: Total length, 92 mm. (82.5-98); tail, 38 (35-43.7); hind foot, 11.

Speaking collectively of these two shrews, Mr. Figgins observes:

"Shrews were the most abundant of all the mammals at all the points visited on Kenai Peninsula. They were confined almost entirely to the timber belts and alder and willow patches between timber line and the barren grounds. One specimen, taken at an altitude of about 2000 feet, was the only exception."— J. D. F.