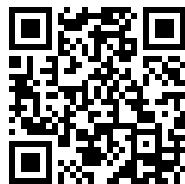


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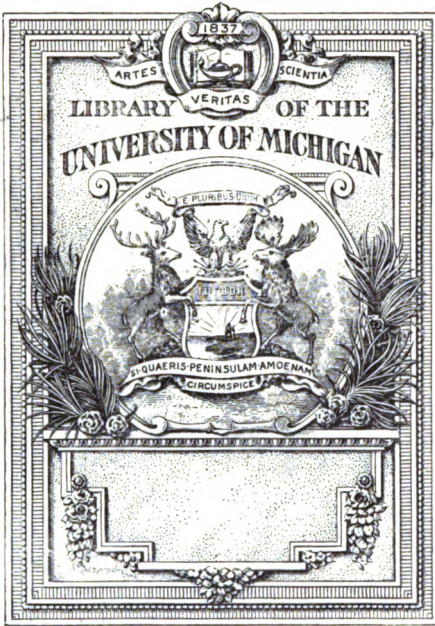
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THE GIFT OF  
*Pres. J. B. Angell.*

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SMITHSONIAN INSTITUTION  
UNITED STATES NATIONAL MUSEUM  
**Bulletin 62**

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CATALOGUE OF THE TYPE-SPECIMENS OF  
MAMMALS IN THE UNITED STATES  
NATIONAL MUSEUM, INCLUDING THE  
BIOLOGICAL SURVEY COLLECTION

BY

**MARCUS WARD LYON, JR.**

Assistant Curator, Division of Mammals, U. S. National Museum

AND

**WILFRED HUDSON OSGOOD**

Assistant, Bureau of Biological Survey, U. S. Department of Agriculture



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
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## ADVERTISEMENT.

The scientific publications of the National Museum consist of two series—the *Bulletin* and the *Proceedings*.

The *Bulletin*, publication of which was begun in 1875, is a series of more or less extensive works intended to illustrate the collections of the U. S. National Museum and, with the exception noted below, is issued separately. These bulletins are monographic in scope and are devoted principally to the discussion of large zoological and botanical groups, faunas and floras, bibliographies of eminent naturalists, reports of expeditions, etc. They are usually of octavo size, although a quarto form, known as the Special Bulletin, has been adopted in a few instances in which a larger page was deemed indispensable.

This work forms No. 62 of the Bulletin series.

Since 1902 the volumes of the series known as "Contributions from the National Herbarium," and containing papers relating to the botanical collections of the Museum, have been published as bulletins.

The *Proceedings*, the first volume of which was issued in 1878, are intended as a medium of publication of brief original papers based on the collections of the National Museum, and setting forth newly acquired facts in biology, anthropology, and geology derived therefrom, or containing descriptions of new forms and revisions of limited groups. A volume is issued annually, or oftener, for distribution to libraries and scientific establishments, and in view of the importance of the more prompt dissemination of new facts a limited edition of each paper is printed in pamphlet form in advance.

RICHARD RATHBUN,  
*Assistant Secretary, Smithsonian Institution,*  
*In Charge of the United States National Museum.*

WASHINGTON, U. S. A., January 15, 1909.

III

191034



## PREFACE.

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This bulletin is the first of a series of catalogues of type-specimens of recent animals which the U. S. National Museum intends to publish as rapidly as circumstances will permit. The desirability of formally designating a particular specimen to represent a species or subspecies is an idea of comparatively recent origin; and although it has gained general acceptance among zoologists, there are still some who doubt its importance. Though there are perhaps some valid arguments against the practice on theoretical grounds, there can be no doubt that it puts an end to uncertainties with which earlier systematists were often confronted.

The practice was not in vogue generally when the National Museum was established, and many specimens which according to present views ought to have been specially treasured were not cared for more than others, while the methods of preparing skins of mammals were at the same time very crude. It has resulted from these circumstances that the type-specimens of species described many years ago are not in as good condition as they should be. Considering the earlier point of view, however, and the vicissitudes through which the collections have passed in the course of a half century, it is fortunate, I think, that the type-specimens have not fared worse. The type-specimens of the more recently described species of mammals, both in the regular series and in the collection of the Biological Survey, are with few exceptions perfect or nearly so and very accurately and thoroughly labeled.

The National Museum has in recent years fostered the depositing of type-specimens of species of animals of all classes, and in this has had the hearty cooperation of numerous American zoologists who consider it a matter of importance to have these standards, as they may be called, permanently preserved in the national collection.

FREDERICK W. TRUE,

*Head Curator Department of Biology.*





## INTRODUCTION.

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This catalogue includes all type-specimens of mammals known to be in the U. S. National Museum on July 1, 1908. It embraces, besides the general collection in the Division of Mammals, the large collection of American mammals made by the Bureau of Biological Survey of the U. S. Department of Agriculture. The latter collection is kept in a special hall of the Museum and is under the direct charge of the chief of the Biological Survey. In the preparation of this catalogue, one author has represented the Division of Mammals and the other the Biological Survey, and, though each is responsible only for the facts concerning the types in the collection with which he is officially connected, the entire manuscript and proof have passed through the hands of both authors. The joint authorship has had correspondingly the joint direction of Dr. F. W. True, head curator of biology and curator of mammals, U. S. National Museum, and Dr. C. Hart Merriam, chief of the Bureau of Biological Survey, U. S. Department of Agriculture. Dr. True has in addition contributed all the facts concerning the types of cetaceans and has read the entire proof. It should be said also that this catalogue was begun in the Division of Mammals eight years ago, under the direction of Mr. Gerrit S. Miller, jr., assistant curator of mammals.

The list includes types (or holotypes) and cotypes, and lectotypes and chiotypes, as defined by Thomas (*Proc. Zool. Soc. London*, 1893, pp. 241-242) and Schuchert (*Bull. U. S. Nat. Mus.*, 53, Pt. 1, pp. 7-18). Appended to the main list of the types now in the Museum is a smaller one, comprising those which, according to the records, should be in the national collection, but which have been lost or destroyed by various accidents.

The name of the species, or subspecies, is given as it occurs in the original description, followed by a reference to the place and date of its publication. This is followed, when necessary owing to changes made by subsequent authors, by the name now currently used for the species or subspecies. The current name is preceded by the sign of equality (=) and followed by a citation of the authority for its use, if such has been found.

The citations are followed by: (1) Museum catalogue number. (2) Nature of specimen, whether skin and skull, or skull only, or skin only,

or skeleton, or specimen preserved in alcohol. (3) Age and sex of specimen; omission of the sex indicates that it is not known. (4) Date when collected; omission of this date indicates that it is not known. (5) Name of person by whom collected, or from whom received, or from whom purchased, if collector is not known. (6) Original number of specimen, usually the number in the collector's field catalogue. In the case of certain of the Biological Survey specimens, the original number is followed by the letter x, which indicates that the specimen is recorded in the "X Catalogue" of the Biological Survey, a book in which is catalogued material received from miscellaneous sources—that is, specimens purchased, acquired by exchange, or received from or collected by persons who are not on the regular staff of the Biological Survey. (7) Date when specimen was catalogued, except in the case of Biological Survey specimens, most of which were catalogued shortly after the date of collection. In the case of many of the National Museum specimens, the date when catalogued gives the only clue as to the probable time when collected.

The condition of the specimen at the present time is then briefly stated.<sup>a</sup>

Finally, the reasons are given for considering any specimen a type, unless it has been clearly designated as a type by number by the author in the original description. In many early descriptions it is difficult to determine whether any individual specimen has formed the principal basis of the description. In cases where no type was indicated by the author, preference has been given to the specimens which have been figured, or to those which seem to be more minutely described, or measured, than others of the original series. The views of subsequent writers also have been considered in the selection of the type. In some cases it was necessary to choose a number of specimens as cotypes of a species. In a few cases the evidence for considering specimens types is very unsatisfactory. However, even if not types in the present meaning of the word, they are at least old, original specimens of much historic value. These difficulties relate mainly to older specimens in the collection contained in the Division of Mammals.

Since a single type-specimen sometimes has more than one catalogue number, a few words about cataloguing specimens seem desirable. Two systems have been used: First, a "double entry" system, in which all the skulls were entered in one catalogue, and all skins and alcoholics in another; and in the usual case of a single individual represented by both skin and skull, cross references are given in each catalogue. The number of a specimen is indicated by a fraction; thus, No.  $\frac{1163}{2046}$  on a

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<sup>a</sup> A few of the type-specimens are among material that has been lent to specialists for study and have been described while in their hands. Some of these have not yet been returned and it is obviously impossible to make any statement as to their condition, but on the whole it is presumed to be good.

skin means skin No. 1163, to which belongs skull No. 2045;  $\frac{2}{1} \frac{0}{1} \frac{4}{6} \frac{3}{3}$  on a skull means skull No. 2045, to which belongs skin No. 1163. This cumbersome system was abandoned at No. 50000 and a "single entry" system was adopted in which each individual is given one number regardless whether preserved as a skin, skull, or alcoholic. Beginning with No. 50001, therefore, there are no separate entries for skins and skulls, one number being used for the entire specimen, except in the case of skins and skeletons of the same individual, when the skeleton usually bears a number in the catalogue of the Division of Comparative Anatomy.

So far as possible the type-specimens, with exception of the cetaceans, have been taken out of the general study series and placed in separate storage cases, plainly labeled on the outside "Types." A few types, however, are on exhibition among the mounted mammals, or mounted skeletons.

The orders, families, and genera are arranged in the usual sequence, beginning with the marsupials and ending with the primates. A few subgenera, however, such as *Micromys*, *Arvicola*, *Alticola*, *Pitymys*, *Puma*, *Lynchailurus*, have recently been raised to generic rank by certain authors in papers in which the natural groups containing such genera are not completely revised. Owing to this lack of general revision as well as the absence of such genera in the current checklists, it has not been deemed advisable to make use of them in this catalogue. It should be observed that the names are given in this list just as they occur in the original descriptions. Frequently the generic term in common use when the species was first described is quite different from the generic designation of to-day, so that it looks a little peculiar to see such names as *Cariacus clavatus*, *Dorcelaphus crooki*, etc., arranged under the genus *Odocoileus*; or *Elastomognathus bairdii*, under the generic name *Tapirella*, etc. In such cases, however, the specific name is placed with the current generic designation, but in less conspicuous type than that of the original name, immediately following the original citation. Under each genus, the species and subspecies are arranged alphabetically. A complete index will be found at the end of the list.

MARCUS WARD LYON, JR.  
WILFRED HUDSON OSGOOD.

## ERRATA.

Page 35, line 25, for *ore,iba* read *ore,aba*.

Page 48, line 13 from bottom, for *panamintonus* read *panamintanus*.

Page 144, after line 18, insert — *Eopharomus aquilus* (True) . . . See Thomas, Proc. Zool. Soc. London, 1896, p. 795

Page 156, after line 22, insert genus *Eopharomus* and entire account of *Mos aquilus* True, p. 144

Page 231, line 13 from bottom, for *horreus* read *horreanus*.

Page 234, line 4 from bottom, for *Neu-sithrichus* read *Neurostrichus*.

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CATALOGUE OF THE TYPE-SPECIMENS OF MAMMALS  
IN THE UNITED STATES NATIONAL MUSEUM,  
INCLUDING THE BIOLOGICAL  
SURVEY COLLECTION.

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Order MARSUPIALIA.

Family DIDELPHYIDÆ.

Genus DIDELPHIS.

**Didelphis yucatanensis cozumelæ** Merriam. Biological Survey coll.  
Proc. Biol. Soc. Wash., XIV, pp. 101-102, July 19, 1901.

108498. Skin and skull. Adult male. Cozumel Island, Yucatan,  
Mexico. April 16, 1901. Collected by E. W. Nelson and E. A.  
Goldman. Original number 14700.

Well-made skin in good condition; skull perfect, except for absence of  
three right lower premolars.

**Didelphis richmondi** Allen. Biological Survey collection.  
Bull. Amer. Mus. Nat. Hist., XIV, pp. 175-176, pl. 24, fig. 3, June 15, 1901.

33136. Skin and skull. Adult female. Greytown, Nicaragua. Feb-  
ruary 10, 1892 (not February 7, as in original description).  
Collected by Dr. C. W. Richmond. Original number 16.

Well-made skin in good condition; skull perfect, except for absence of  
one right upper premolar, two left lower premolars, and two lower incisors.

**Didelphis marsupialis tabascensis** Allen. Biological Survey coll.  
Bull. Amer. Mus. Nat. Hist., XIV, pp. 173-174, pl. 23, figs. 1-2, 6; pl. 24,  
fig. 2, June 15, 1901.

= **Didelphis mes-americana tabascensis** (Allen). See Allen, *op. cit.*, XVI, p.  
257, August 18, 1902.

100512. Skin and skull. Adult male. Teapa, Tabasco, Mexico.  
April 7, 1900. Collected by E. W. Nelson and E. A. Goldman.  
Original number 14118.

Well-made skin in good condition; skull perfect, except for absence of  
two left upper and one left lower premolars, and four upper incisors.

**Didelphis marsupialis texensis** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., XIV, pp. 172-173, June 15, 1901.

**Didelphis mes-americana texensis** (Allen). See Allen, *op. cit.*, XVI, p. 256, August 18, 1902.

33333. Skin and skull. Adult male. Brownsville, Texas. April 13, 1892. Collected by F. B. Armstrong. Original number 12.

Well-made skin in good condition; skull perfect, except for absence of occipital condyles.

**Didelphis yucatanensis** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., XIV, pp. 178-179, June 15, 1901.

108299 (not 100299, as in original description). Skin and skull. Adult male. Chichenitza, Yucatan, Mexico. February 1, 1901 (not January 29, 1901, as in original description). Collected by E. W. Nelson and E. A. Goldman. Original number 14468.

Well-made skin in good condition, with a small bare spot on right shoulder; skull perfect, except for absence of one right upper premolar and three left lower premolars.

## Genus MARMOSA.

**Marmosa insularis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 14-15, January 27, 1898.

89215. Skin and skull. Adult male. Maria Madre Island, Tres Marias Islands, Mexico. May 16, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11028.

Well-made skin in good condition; skull perfect, except for slightly broken auditory bullae and small perforation in brain case.

**Marmosa murina mexicana** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 44, March 13, 1897.

71529. Skin and skull. Immature male. Juquila, Oaxaca, Mexico. February 28, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7571.

Well-made skin in good condition; skull perfect.

**Marmosa oaxacæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 43-44, March 16, 1897.

68240. Skin and skull. Adult female. Oaxaca, Oaxaca, Mexico. August 14, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6571.

Well-made skin in good condition, except for a bare spot on the rump; skull perfect.

## Genus METACHIRUS.

**Metachirus fuscogriseus pallidus** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., XIV, pp. 215-217, July 3, 1901.

58158. Skin and skull. Adult male. Orizaba, Vera Cruz, Mexico. January 24, 1894 (not June 24, 1894, as in original description). Collected by E. W. Nelson and E. A. Goldman. Original number 5740.

Well-made skin in good condition; skull perfect.

## Order EDENTATA.

## Family DASYPODIDÆ.

## Genus CABASSOUS.

**Tatoua (Ziphila) centralis** Miller.

Proc. Biol. Soc. Wash., XIII, p. 4, figs. 1, 2, January 31, 1890.

= **Cabassous centralis** (Miller). See Palmer, Proc. Biol. Soc. Wash., XIII, p. 72, September 28, 1890.

$\frac{1}{3} \frac{2}{3} \frac{1}{3} \frac{1}{3}$ . Skin and skull. Adult female. Chamelicon, Honduras. January 8, 1891. Collected by Erich Wittkügel. Original number 8. Catalogued May 23, 1891.

Formerly mounted; now a well-made skin in good condition, nine or ten scales missing from carapace. Skull nearly perfect; somewhat injured about the bullæ. All the teeth in upper jaws lost except first left premolar; all in the lower jaw present except the first left premolar.

## Genus TATU.

**Tatu novemcinctum texanum** Bailey. Biological Survey collection.

North Amer. Fauna, No. 25, pp. 52-56, figs. 5-7, October 24, 1905.

$\frac{1}{4} \frac{1}{4} \frac{1}{3} \frac{1}{3}$ . Skin and skull. Adult male. Brownsville, Texas. June 10, 1892 (not 1902 as in original description). Collected by F. B. Armstrong. Original number 4.

Well-made skin in good condition; skull perfect.

## Family MYRMECOPHAGIDÆ.

## Genus MYRMECOPHAGA.

**Myrmecophaga centralis** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1496, p. 570, pl. 14, figs. 1, 3, November 14, 1906.

15963. Skull (no skin). Young adult. Pacuare, Costa Rica. June, 1876. Collected by José C. Zeledon. Original number 86. Catalogued June 10, 1878.

Skull perfect; no record of a skin.



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Page 156, after line 22, insert genus *Lophuromys* and entire account of *Mus aquilus* True, p. 144.

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Genus DIDELPHIS.

**Didelphis yucatanensis cozumelæ** Merriam. Biological Survey coll.  
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108498. Skin and skull. Adult male. Cozumel Island, Yucatan, Mexico. April 16, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14700.

Well-made skin in good condition; skull perfect, except for absence of three right lower premolars.

**Didelphis richmondi** Allen. Biological Survey collection.  
Bull. Amer. Mus. Nat. Hist., XIV, pp. 175-176, pl. 24, fig. 3, June 15, 1901.

$\frac{3}{4}\frac{3}{4}\frac{3}{4}\frac{3}{4}$ . Skin and skull. Adult female. Greytown, Nicaragua. February 10, 1892 (not February 7, as in original description). Collected by Dr. C. W. Richmond. Original number 16.

Well-made skin in good condition; skull perfect, except for absence of one right upper premolar, two left lower premolars, and two lower incisors.

**Didelphis marsupialis tabascensis** Allen. Biological Survey coll.  
Bull. Amer. Mus. Nat. Hist., XIV, pp. 173-174, pl. 23, figs. 1-2, 6; pl. 24, fig. 2, June 15, 1901.

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100512. Skin and skull. Adult male. Teapa, Tabasco, Mexico. April 7, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14118.

Well-made skin in good condition; skull perfect, except for absence of two left upper and one left lower premolars, and four upper incisors.

**Didelphis marsupialis texensis** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., XIV, pp. 172-173, June 15, 1901.

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$\frac{33}{45} \frac{133}{137}$ . Skin and skull. Adult male. Brownsville, Texas. April 13, 1892. Collected by F. B. Armstrong. Original number 12.

Well-made skin in good condition; skull perfect, except for absence of occipital condyles.

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Bull. Amer. Mus. Nat. Hist., XIV, pp. 178-179, June 15, 1901.

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**Marmosa insularis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 14-15, January 27, 1898.

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Well-made skin in good condition; skull perfect, except for slightly broken auditory bulla and small perforation in brain case.

**Marmosa murina mexicana** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 44, March 16, 1897.

71526. Skin and skull. Immature male. Juquila, Oaxaca, Mexico. February 28, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7571.

Well-made skin in good condition; skull perfect.

**Marmosa oaxacæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 43-44, March 16, 1897.

68240. Skin and skull. Adult female. Oaxaca, Oaxaca, Mexico. August 14, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6571.

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## Genus METACHIRUS.

**Metachirus fuscogriseus pallidus** Allen. Biological Survey collection.

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$\frac{19}{3} \frac{4}{3} \frac{8}{8} \frac{4}{2}$ . Skin and skull. Adult female. Chamelicon, Honduras. January 8, 1891. Collected by Erich Wittkügél. Original number 8. Catalogued May 23, 1891.

Formerly mounted; now a well-made skin in good condition, nine or ten scales missing from carapace. Skull nearly perfect; somewhat injured about the bullæ. All the teeth in upper jaws lost except first left premolar; all in the lower jaw present except the first left premolar.

## Genus TATU.

**Tatu novemcinctum texanum** Bailey. Biological Survey collection.

North Amer. Fauna, No. 25, pp. 52-56, figs. 5-7, October 24, 1905.

$\frac{34}{4} \frac{3}{6} \frac{5}{2} \frac{5}{3}$ . Skin and skull. Adult male. Brownsville, Texas. June 10, 1892 (not 1902 as in original description). Collected by F. B. Armstrong. Original number 4.

Well-made skin in good condition; skull perfect.

## Family MYRMECOPHAGIDÆ.

## Genus MYRMECOPHAGA.

**Myrmecophaga centralis** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1496, p. 570, pl. 14, figs. 1, 3, November 14, 1906.

15963. Skull (no skin). Young adult. Pacuare, Costa Rica. June, 1876. Collected by José C. Zeledon. Original number 86. Catalogued June 10, 1878.

Skull perfect; no record of a skin.

## Order CETE.

## Family BALÆNIDÆ.

## Genus BALÆNOPTERA.

**Balænoptera davidsoni** Scammon.

Proc. California Acad. Sci., IV, p. 269, printed in advance, October 4, 1872;  
TRUE, Smithsonian Contributions to Knowledge, XXXIII, pp. 91 and 293,  
pl. 25, fig. 1; pl. 23, fig. 1; and pl. 26, fig. 1.

12177. Skull. Adult female. Admiralty Inlet, Puget Sound, Wash-  
ington. October, 1870. Collected by Capt. C. M. Scammon.  
Catalogued February 6, 1872.

Skull in good condition.

Type not designated by number. See True, *op. cit.*, p. 91.

## Family PHYSETERIDÆ.

## Genus KOGIA.

**Kogia floweri** Gill.

Amer. Nat., IV, p. 738; fig. 167, p. 736, and fig. 172, p. 741, 1871.

8016. Mandible and water-color sketch of entire animal (the "por-  
trait" mentioned by Dr. T. N. Gill). Off Mazatlan, Sinaloa,  
Mexico. 1868. Collected by Col. A. J. Grayson, U. S. A. Cata-  
logued in 1868.

Posterior end of mandible broken and a few teeth lacking. Water-color  
sketch (188 by 52 mm.) in good condition.

Type not designated by number. In the original description it is said to be  
based on "jaw and portrait."

**Kogia goodei** True.

Bull. U. S. Nat. Mus. No. 27. Great International Fisheries Exhibition, Lon-  
don, 1883. United States of America. H. Catalogue of the Aquatic Mammals  
exhibited by the U. S. National Museum, p. 630, table, and p. 641, list. *Nomen  
nudum*.

= **Kogia breviceps** (Blainville). See True, Report U. S. Fish Commission for 1883.  
Suggestions to Keepers U. S. Life-Saving Stations, etc., relative to collecting  
and preserving specimens of Whales and Porpoises, pl. 8, fig. 22.

$\frac{13138}{20308}$ . Cast of entire animal, and skeleton. Adult female. Spring  
Lake, New Jersey. Received in the flesh from H. S. Howland,  
April 27, 1883. Original number of cast 40. Catalogued April  
27, 1883.

Cast in good condition; in storage.

Skeleton in good condition; on exhibition.

No description of this species has been published. The name occurs in the  
table and list cited above. Two specimens are mentioned, the above and one  
from Florida, represented by the mandible and by photographs.

## Family ZIPHIIDÆ.

## Genus ZIPHIUS.

**Ziphius grebnitzkii** Stejneger.

Proc. U. S. Nat. Mus., VI, p. 77, June 22, 1883.

20993. Skull. Bering Island. Autumn of 1882. Collected by Dr. L. Stejneger. Original number 1521. Catalogued November 24, 1883.

Type designated by Dr. L. Stejneger's original number 1521=Museum No. 20993.

**Hyperodon semijunctus** Cope.

Proc. Acad. Nat. Sci. Phila., 1865, p. 280, ordered published December 26, 1865.

*Hyperoodon semijunctus* Cope. See Cope, Proc. Acad. Nat. Sci. Phila., 1869, p. 31.

=*Ziphius cavirostris* G. Cuvier. See True, Proc. U. S. Nat. Mus., VIII, p. 585.

21975. Skeleton. Young female. Charleston Harbor, South Carolina. March, 1861. Collected by Dr. G. E. Manigault. Catalogued July 15, 1885.

Skeleton in fair condition, nearly complete.

Type not designated by number. Described while in possession of the Charleston Museum. Since then acquired by the U. S. National Museum.

## Genus MESOPLODON.

**Mesoplodon stejneri** True.

Proc. U. S. Nat. Mus., VIII, p. 584, pl. 25, October 19, 1885.

21112. Cranium. Young. Bering Island. 1883. Collected by Dr. L. Stejneger. Catalogued February 2, 1884.

Tympanic and malar bones lacking, pterygoids imperfect.

Description based on one specimen, mentioned by number.

## Genus BERARDIUS.

**Berardius bairdii** Stejneger. See page 287.

## Family DELPHINIDÆ.

## Genus PHOCÆNA.

**Phocæna dalli** True.

Proc. U. S. Nat. Mus., VIII, p. 95, pls. 2-5, May 20, 1885; Bull. U. S. Nat. Mus., No. 36, p. 123, 1889.

21762. Skull. Adult male. Strait west of Adakh Island, Aleutian Group, Alaska. August 13, 1873. Collected by Dr. W. H. Dall. Original number 1554. Catalogued April 23, 1885.

Skull in good condition, but earbones, malars, and upper teeth lacking and one pterygoid broken.



Type not originally designated by number. On page 98 of the original description measurements are given of "the type skull of *Phocæna Dalli*." On page 125, Bulletin U. S. National Museum, No. 36, the same measurements are given and the type there indicated as No. 21762.

### *Phocæna lineata* Cope.

Proc. Acad. Nat. Sci. Phila., 1876, p. 134, ordered published June 29, 1876.

= ?*Phocæna phocæna* (Linnaeus). See True, Bull. U. S. Nat. Mus., No. 36, p. 118, and also pp. 117, 119, and 120, 1889.

$\frac{1}{8} \frac{3}{8} \frac{1}{8}$ . Cast of entire animal, and skull. Hudson River, New York. Received at the U. S. National Museum, February 22, 1876, from John Wallace. Cast (no. 19) catalogued January 20, 1876; skull, April 22, 1879.

Cast and skull in good condition.

"Represented by a single specimen which was taken in the harbor of New York not many months ago, and sent to the Smithsonian Institution where the skeleton is now preserved" (Cope).

Skeleton lost. See True, *op. cit.*, p. 117.

Type not designated by number. Cope refers to but one specimen, the above.

### *Phocæna vomerina* Gill. Cotypes.

Proc. Acad. Nat. Sci. Phila., 1865, p. 178, ordered published September 26, 1865.

= *Phocæna phocæna* (Linnaeus). See True, Bull. U. S. Nat. Mus., No. 36, p. 118, 1889.

4149. Rostrum and part of brain-case. Adult. Puget Sound. Collected by Dr. C. B. Kennerly. Catalogued July, 1860.

A little has been cut off the skull behind the orbits. Malars, pterygoids, and teeth lacking.

$\frac{4}{4} \frac{1}{4} \frac{3}{8}$ . Skin and skull. Young. San Francisco, California. Collected by Dr. William Stimpson. Catalogued April 20, 1861.

Cotypes not designated by number. The two above specimens are the only ones in the collection having the data given by Dr. T. N. Gill.

### Genus PSEUDORCA.

#### *Orca destructor* Cope.

Proc. Acad. Nat. Sci. Phila., 1866, p. 293, ordered published October 30, 1866.

= *Pseudorca crassidens* (Owen). See True, Bull. U. S. Nat. Mus., No. 36, p. 143, 1889.

3679. Beak and mandible. Pacific Ocean, off Paita, Peru. Received from Col. E. Jewett (see Smithsonian Report, 1860, p. 80).

In good condition.

Description based upon one specimen, designated by number.

Genus GLOBICEPHALUS.

**Globiocephalus scammonii** Cope.

Proc. Acad. Nat. Sci. Phila., p. 21, 1869; Dall in Scammon's Marine Mammals, 1874, p. 299.

=**Globicephalus scammoni** (Cope). See True, Bull. U. S. Nat. Mus., No. 36, 1889, p. 139.

9074. Skull. "Coast of Lower California in latitude 31°, land 10 miles distant. December 14, 1862." (Scammon, Marine Mammals, 1874, p. 86.) Collected by Capt. C. M. Scammon. Catalogued October 25, 1869.

In good condition.

For considering this specimen the type, see True, *op. cit.*, p. 139 and p. 140.

Two mandibles, Nos. 9075 and 9076, in the National Museum formed part of the original material. They may be considered as paratypes.

Genus GRAMPUS.

**Grampus stearnsii** Dall.

Proc. California Acad. Sci., V, p. 13, printed in advance January 29, 1873.

=**Grampus griseus** (Cuvier). See True, Bull. U. S. Nat. Mus., No. 36, p. 125, 1889.

13021. Mandible. Monterey, California. Collected by Capt. C. M. Scammon. Catalogued in 1873.

"Two jaws of this animal are in my hands for examination." (Dall in Scammon's Marine Mammals, 1874, p. 299.)

For considering this specimen the type, see True, *op. cit.*, p. 130.

Genus SAGMATIAS.

**Sagmatias amblodon** Cope.

Proc. Acad. Nat. Sci., Phila., 1866, p. 294, ordered published October 30, 1866; True, Bull. U. S. Nat. Mus., No. 36, p. 106, 1889.

3887. Skull. Old adult. "Caught at sea." Locality unknown. (See Cope and True, *loc. cit.*) Collected by the ship *Vincennes*, of the United States Exploring Expedition. Catalogued June 20, 1860.

Skull in good condition, but one tympanic bone lacking and the other broken, malars lacking and one pterygoid broken.

Type not designated by number. There was but one specimen taken by the ship *Vincennes*, locality not known, but probably between Cape Horn and Lima, Peru, or Australia, or New Zealand. This specimen is No. 3887. See True, *op. cit.*, p. 106, table.

Genus LAGENORHYNCHUS.

**Lagenorhynchus gubernator** Cope. Cotypes.

Proc. Acad. Nat. Sci. Phila., 1876, p. 138, ordered published June 20, 1876.

=**Lagenorhynchus acutus** Gray. See True, Bull. U. S. Nat. Mus., No. 36, 1889, p. 83.

12305 and 12306. Plaster casts (No. 2) made and colored from a fresh specimen. Cope remarks: "This delphinoid was taken by the U. S. Fish Commission at near the same locality as the last" [i. e., near Portland, Maine. "The last," *L. perspicillatus*, was really from Cape Cod, Massachusetts, but *L. gubernator* was from Casco Bay, near Portland, Maine. F. W. True].

Casts in good condition.

Cotypes not designated by numbers.

### **Delphinus longidens** Cope.

Proc. Acad. Nat. Sci. Phila., 1866, p. 295, ordered published October, 1866.

=*Lagenorhynchus obliquidens* Gill. See True, Bull. U. S. Nat. Mus., No. 36, p. 99, 1889.

3886. Skull. Young adult. Locality unknown. See True, *op. cit.*, p. 99. Collected by the United States Exploring Expedition. Catalogued June 20, 1860.

Skull considerably broken; the malars, earbones, a portion of the pterygoids, and most of the teeth absent.

Type not designated by number. Cope had only one specimen, No. 3886.

### **Lagenorhynchus obliquidens** Gill. Cotypes.

Proc. Acad. Nat. Sci. Phila., 1865, p. 177, ordered published September 26, 1865; True, Bull. U. S. Nat. Mus., No. 36, p. 96, 1889.

1961, 1962, and 1963. Skulls. Pacific Ocean, near San Francisco, California. "Obtained at San Francisco, California." (Gill, *loc. cit.*) Collected by Lieut. W. P. Trowbridge, U. S. A. Catalogued October 24, 1855.

Skulls in good condition, but earbones, all but one malar, and many teeth lacking.

No type designated by Dr. T. N. Gill in the original description. For considering these specimens cotypes, see True, *op. cit.*, p. 98.

### **Phocæna pectoralis** Peale.

U. S. Explor. Exped., VIII, Mamm. and Ornith., p. 32, pl. 6, fig. 1, 1848.

=*Lagenorhynchus electra* Gray. See True, Bull. U. S. Nat. Mus., No. 36, p. 100, 1889.

4108. Mandible. Adult. Hilo Bay, Hawaii. Collected by U. S. Exploring Expedition. No. 32, Peale's list of specimens, *loc. cit.*, p. 305. Catalogued June 26, 1860.

Mandible in good condition; teeth much worn.

Type not designated in the original description, but see True, *op. cit.*, p. 101.

### **Lagenorhynchus perspicillatus** Cope. Cotypes.

Proc. Acad. Nat. Sci. Phila., 1876, p. 136, pl. 4, ordered published June 20, 1876.

=*Lagenorhynchus acutus* Gray. See True, Bull. U. S. Nat. Mus., No. 36, p. 85, 1889.

"This species is represented in the collections of the Smithsonian Institution by numerous crania, some skeletons and a colored cast of the natural size, taken by the United States Commission of Fisheries, near Portland, Maine" (Cope).

"The foregoing locality is, I believe, incorrect. It should be Woods Hole, Mass., or else Cape Cod. I think cast, No. 12939, Woods Hole, Mass., (original No. 3), and the whole series of skulls and mandibles, Nos. 14228 to 14326, and probably also Nos. 14335 and 14362 to 14373, are to be regarded as cotypes. Two or three of these skulls were missing when the collection was checked up in 1905. No. 14335 is marked 'Skeleton without a head,' but it is on exhibition and there is a skull on it now. This seems to be the only skeleton in the lot." F. W. True.

Genus LISSODELPHIS.

**Delphinapterus borealis** Peale. See page 287.

Genus DELPHINUS.

**Delphinus albimanus** Peale.

U. S. Explor. Exped., VIII, Mamm. and Ornith., p. 33, pl. 7, fig. 1, 1848.

=**Delphinus delphis** Linnæus. See True, Bull. U. S. Nat. Mus., No. 36, p. 45, 1889.

3143. Mounted skin and jaw. Female. Off the coast of Chile, lat. 27° 16' S., long. 75° 30' W. Collected by U. S. ship *Peacock*. No. 31, Peale's list of specimens, *op. cit.*, p. 305. Catalogued June 26, 1860. For further information, see True, *op. cit.*, p. 55.

Mounted specimen is in fair condition for a cetacean skin; the natural color has practically disappeared.

**Delphinus albirostratus** Peale. See page 287.

**Delphinus bairdii** Dall. See page 287.

Genus TURSIOPS.

**Tursiops gillii** Dall.

Proc. California Acad. Sci., V, p. 13, printed in advance, January 29, 1873; Scammon's *Marine Mammals*, 1874, p. 288; True, Bull. U. S. Nat. Mus., No. 36, p. 43, 1889.

13022. Mandible (no other portion of specimen known to describer) "and outline of animal drawn by Captain Scammon." Young adult. Monterey, California. Collected by Capt. C. M. Scammon.

Mandible in good condition; one tooth lacking.

Outline not found.

Type not designated by number. For regarding this specimen as the type, see True, *op. cit.*, p. 43, footnote.

Genus PRODELPHINUS.

**Delphinus lateralis** Peale. See page 288.

**Delphinus plagiodon** Cope.

Proc. Acad. Nat. Sci. Phila., 1866, p. 296, ordered published October 30, 1886.

=**Prodelphinus plagiodon** (Cope). See True, Bull. U. S. Nat. Mus., No. 36, p. 66, 1889.

3884. Skull. Youngish. Locality unknown. Received from J. Varden. Catalogued June 20, 1860.

Skull in good condition; earbones and two teeth lacking, pterygoids incomplete.

Species based on one specimen, No. 3884, mentioned in the original description.

## Order UNGULATA.

## Family BOVIDÆ.

## Genus OVIS.

**Ovis canadensis auduboni Merriam.**

Proc. Biol. Soc. Wash., XIV, p. 31, April 5, 1901.

$\frac{1^5 2^0}{2^8 6^1 0}$ . Skin (lost) and skull. Young adult male. "Upper Missouri." Probably collected in the Badlands of South Dakota in 1855 by Dr. F. V. Hayden. Skin of head catalogued June 21, 1856; skull catalogued April 27, 1887.

Skull and horns, No. 22610, in good condition. Catalogue calls for skin of the head, No. 1520, which can not be found.

**Ovis montana dalli Nelson. Cotypes.**

Proc. U. S. Nat. Mus., VII, p. 12, June 3, 1884.

= **Ovis dalli** (Nelson). See Allen, Bull. Amer. Mus. Nat. Hist., IX, p. 112, April 8, 1897.

In the original description, Mr. Nelson says: "The types of the new race are two specimens brought me by Mr. L. N. McQuesten, a fur trader living at Fort Reliance, on the Upper Yukon River near the point where it crosses the British boundary line. These specimens were killed by the Indians on some mountains south of Fort Yukon and on the west bank of the river." They were taken in the winter of 1879-80. The two cotypes are not designated in the original description by number, but the two specimens that Mr. Nelson had at the time are.

13265. Skin. Adult female.

In fair condition. The catalogues call for a lower jaw No. 20787, now lost. Original number  $\frac{1}{14}$ .

$\frac{1^3 2^6 6^6}{0^7 7^8 8^8}$ . Skin and skull. Adult male.

Skin in fair condition; skull perfect, except slight cutting about foramen magnum. Original number  $\frac{1}{14}$ .

The skins were catalogued January 5, 1881; the skull and lower jaw September 8, 1882.

Both specimens were mounted by Ward's Natural Science Establishment, of Rochester, N. Y., and were on exhibition for many years in the Museum. In April, 1902, these specimens were made into study skins. Each was found to contain a wooden skull to which horns were fastened. These wooden skulls with the attached horns are still in the skins. The horns fastened to the wooden skull of the male skin are slightly larger than the horns belonging to the skull of the same specimen. As the horns of the skull fit the horn-cores it is probable that the horns now on the skin do not naturally belong there, and the true horns of the cotype are those found with the skull. This skull was lost for many years, but was found in the collection January 12, 1905, by Mr. Walter L. Hahn and recognized as a long lost cotype.

**Ovis canadensis gaillardi Mearns.**

Bull. U. S. Nat. Mus., No. 56, Pt. 1, p. 240, fig. 36, April 13, 1907.

59906. Skin and skull. Immature female. Gila Mountains, between Tinajas Atlas and the Mexican boundary line, in Yuma County, Arizona. February 21, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3029. Catalogued April 13, 1894.

Flat folded skin in good condition; skull somewhat damaged, right horn and part of horn-core knocked off and lost, mandible broken into three pieces. The first permanent molars are in place above, the second molars are just appearing above the alveoli.

**Ovis mexicanus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 30, April 5, 1901.

99342. Skin and skull. Adult male. Lake Santa Maria, Chihuahua, Mexico. September 16, 1899. Collected by E. W. Nelson and E. A. Goldman. Original number 13974.

Well-made skin in good condition; skull perfect, except for three broken incisors.

**Ovis nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 218, July 15, 1897.

$\frac{28383}{40487}$ . Skin and skull. Adult female. Grapevine Mountains, near lat. 37° N., California-Nevada boundary line. June 4, 1891. Collected by E. W. Nelson. Original number 942.

Well-made skin in good condition; skull perfect, except broken left mandibular ramus.

#### Genus CEPHALOPHUS.

**Cephalophus spadix** True.

Proc. U. S. Nat. Mus., XIII, No. 814, p. 227, September 16, 1890.

$\frac{18985}{34707}$ . Skin and skull. Adult male. In high altitudes, Mount Kilimanjaro, German East Africa. 1889-90. Collected by Dr. W. L. Abbott. Original number 21. Catalogued June 24, 1890.

Skin in good condition, mounted and now on exhibition; skull perfect.

No type specified, but the entire description is based upon one specimen, the above, designated by number.

#### Genus REDUNCA.

**Cervicpra chanleri** Rothschild.

Novitates Zoologicae, II, p. 53, February, 1895.

= **Redunca chanleri** (Rothschild). See Trouessart, Suppl. Catalogus Mammalium, p. 722, 1904.

$\frac{61868}{48418}$ . Skin and skeleton, both mounted and on exhibition. Adult male. On the slopes of the Jambine Mountains, about 45 miles north-northeast of Mount Kenia, British East Africa. (See Selater and Thomas, Book of Antelopes, II, p. 183, March, 1897.) 1893. Collected by Hon. William Astor Chanler. Catalogued April 5, 1895.

## Order UNGULATA.

## Family BOVIDÆ.

## Genus OVIS.

**Ovis canadensis auduboni** Merriam.

Proc. Biol. Soc. Wash., XIV, p. 31, April 5, 1901.

$\frac{152}{2810}$ . Skin (lost) and skull. Young adult male. "Upper Missouri." Probably collected in the Badlands of South Dakota in 1855 by Dr. F. V. Hayden. Skin of head catalogued June 21, 1856; skull catalogued April 27, 1887.

Skull and horns, No. 22610, in good condition. Catalogue calls for skin of the head, No. 1520, which can not be found.

**Ovis montana dalli** Nelson. Cotypes.

Proc. U. S. Nat. Mus., VII, p. 12, June 3, 1884.

= **Ovis dalli** (Nelson). See Allen, Bull. Amer. Mus. Nat. Hist., IX, p. 112, April 8, 1897.

In the original description, Mr. Nelson says: "The types of the new race are two specimens brought me by Mr. L. N. McQuesten, a fur trader living at Fort Reliance, on the Upper Yukon River near the point where it crosses the British boundary line. These specimens were killed by the Indians on some mountains south of Fort Yukon and on the west bank of the river." They were taken in the winter of 1879-80. The two cotypes are not designated in the original description by number, but the two specimens that Mr. Nelson had at the time are.

## 13265. Skin. Adult female.

In fair condition. The catalogues call for a lower jaw No. 20787, now lost. Original number  $\frac{124}{115}$ .

 $\frac{132}{20788}$ . Skin and skull. Adult male.

Skin in fair condition; skull perfect, except slight cutting about foramen magnum. Original number  $\frac{155}{118}$ .

The skins were catalogued January 5, 1881; the skull and lower jaw September 8, 1882.

Both specimens were mounted by Ward's Natural Science Establishment, of Rochester, N. Y., and were on exhibition for many years in the Museum. In April, 1902, these specimens were made into study skins. Each was found to contain a wooden skull to which horns were fastened. These wooden skulls with the attached horns are still in the skins. The horns fastened to the wooden skull of the male skin are slightly larger than the horns belonging to the skull of the same specimen. As the horns of the skull fit the horn-cores it is probable that the horns now on the skin do not naturally belong there, and the true horns of the cotype are those found with the skull. This skull was lost for many years, but was found in the collection January 12, 1905, by Mr. Walter L. Hahn and recognized as a long lost cotype.

**Ovis canadensis gaillardi** Mearns.

Bull. U. S. Nat. Mus., No. 56, Pt. 1, p. 240, fig. 36, April 13, 1907.

59906. Skin and skull. Immature female. Gila Mountains, between Tinajas Atlas and the Mexican boundary line, in Yuma County, Arizona. February 21, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3029. Catalogued April 13, 1894.

Flat folded skin in good condition; skull somewhat damaged, right horn and part of horn-core knocked off and lost, mandible broken into three pieces. The first permanent molars are in place above, the second molars are just appearing above the alveoli.

**Ovis mexicanus Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 30, April 5, 1901.

99342. Skin and skull. Adult male. Lake Santa Maria, Chihuahua, Mexico. September 16, 1899. Collected by E. W. Nelson and E. A. Goldman. Original number 13974.

Well-made skin in good condition; skull perfect, except for three broken incisors.

**Ovis nelsoni Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 218, July 15, 1897.

$\frac{28383}{40487}$ . Skin and skull. Adult female. Grapevine Mountains, near lat. 37° N., California-Nevada boundary line. June 4, 1891. Collected by E. W. Nelson. Original number 942.

Well-made skin in good condition; skull perfect, except broken left mandibular ramus.

#### Genus CEPHALOPHUS.

**Cephalophus spadix True.**

Proc. U. S. Nat. Mus., XIII, No. 814, p. 227, September 16, 1890.

$\frac{18964}{34707}$ . Skin and skull. Adult male. In high altitudes, Mount Kilimanjaro, German East Africa. 1889-90. Collected by Dr. W. L. Abbott. Original number 21. Catalogued June 24, 1890.

Skin in good condition, mounted and now on exhibition; skull perfect.

No type specified, but the entire description is based upon one specimen, the above, designated by number.

#### Genus REDUNCA.

**Cervicapra chanleri Rothschild.**

Novitates Zoologicae, II, p. 53, February, 1895.

=*Redunca chanleri* (Rothschild). See Trouessart, Suppl. Catalogus Mammalium, p. 722, 1904.

$\frac{51868}{49418}$ . Skin and skeleton, both mounted and on exhibition. Adult male. On the slopes of the Jambine Mountains, about 45 miles north-northeast of Mount Kenia, British East Africa. (See Sclater and Thomas, Book of Antelopes, II, p. 183, March, 1897.) 1893. Collected by Hon. William Astor Chanler. Catalogued April 5, 1895.



Both skin and skeleton are in good condition.

The specimen was mounted in London by Rowland Ward, Ltd., and while in that establishment was described by Hon. Walter Rothschild, who specifically designated it as the type, although it was not in the collection of the U. S. National Museum at that time.

#### Genus ANTILOCAPRA.

**Antilocapra americana mexicana** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XIV, pp. 31-32, April 5, 1901.

98742. Skin and skull. Young adult male. Sierra en Media, Chihuahua, Mexico. October 4, 1899. Collected by E. W. Nelson and E. A. Goldman. Original number 13989.

Well-made skin in good condition; skull perfect.

#### Family CERVIDÆ.

#### Genus ODOCOILEUS.

**Cervus macrotis californicus** Caton. See page 288.

**Odocoileus hemionus canus** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 560, November 29, 1901.

99361. Skin and skull. Adult male. Sierra en Media, Chihuahua, Mexico. October 7, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 13996.

Well-made skin in good condition; skull perfect, except broken incisors.

**Odocoileus cerrosensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 101-102, April 30, 1898.

80782. Skin and skull. Adult male. Cerros Island, Lower California, Mexico. August 9, 1896. Collected by A. W. Anthony. Original number 113.

Well-made skin in good condition; skull perfect, except for broken left audital bulla.

**Cariacus clavatus** True.

Proc. U. S. Nat. Mus., XI, p. 417, July 5, 1889. Preoccupied by *Cervus clavatus*.

Hamilton Smith (Griffith's Cuvier, Animal Kingdom, V, p. 315, 1827).

=*Odocoileus truei* Merriam. Proc. Biol. Soc. Wash., XII, p. 103, April 30, 1898.

374<sup>9</sup><sub>24</sub><sup>15</sup>. Skin and skull. Young adult male. Open pine forests on the Segovia River, about 50 miles from the sea, eastern Honduras. 1887, probably in July or August. Collected by C. H. Townsend. Skin catalogued December 15, 1887; skull May 13, 1898.

Specimen formerly mounted, but since taken down and made into a modern study skin; in good condition. Skull that of a young adult male, with spike

antlers. It is slightly injured about the pterygoids, and only small proximal portions of the premaxillæ remain. All the lower incisors and canines are lost and the tip of the right coronoid process is missing.

No type designated. The greater part of the description is based upon number 16075 in table on page 425, *loc. cit.* This is the specimen which Doctor True states he considered most typical at the time he described the species and on which had been placed the red type label. It is also the specimen which Mr. Gerrit S. Miller, jr., regarded as the type and measured, but did not designate by number. See Proc. Biol. Soc. Wash., XIV, p. 37, footnote, April 25, 1901.

### **Odocoileus costaricensis** Miller.

Proc. Biol. Soc. Wash., XIV, p. 35, April 25, 1901.

11 $\frac{3}{0}$  $\frac{3}{3}$  $\frac{5}{5}$ . Skin and skull. Young adult male. Talamanca, between the coast and the foot of the Cordilleras, eastern Costa Rica. Latter part of 1872 or early in 1873. Collected by José C. Zeledon. Received from Prof. W. M. Gabb. Original number 46. Catalogued in 1873.

Specimen has been remade into a modern study skin in good condition. The skull is perfect, except for loss of lower left incisors and canine and first and second right incisors, and the right upper and lower premolars.

### **Dorcelaphus crooki** Mearns.

Preliminary diagnoses of new mammals of the genera *Mephitis*, *Dorcelaphus*, and *Dicotyles* from the Mexican border of the United States, p. 2, February 11, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1129, p. 468, December 24, 1897.)

=*Odocoileus crooki* (Mearns). See Thompson, Forest and Stream, LI, p. 286, October 8, 1898.

3 $\frac{0}{6}$  $\frac{5}{7}$  $\frac{1}{1}$  $\frac{2}{2}$ . Skull and parts of skin. Adult female. Summit of Dog Mountains, Grant County, New Mexico. June 9, 1892. Collected by Dr. E. A. Mearns, U. S. A. and F. X. Holzner. Original number 1873. International Boundary Commission. Catalogued November 15, 1892.

Skull perfect. The following parts of the skin are present and in good condition: Skin of head, tail, two pieces of body skin, one about 360 by 200 mm., another about 160 by 70 mm., and fore leg and hind leg.

### **Dorcelaphus hemionus eremicus** Mearns.

Preliminary diagnoses of new mammals of the genera *Mephitis*, *Dorcelaphus*, and *Dicotyles* from the Mexican border of the United States, p. 4, February 11, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1129, p. 470, December 24, 1897.)

=*Odocoileus hemionus eremicus* (Mearns). See Thompson, Forest and Stream, LI, p. 286, October 8, 1898.

63403. Skin (no skull). Adult male. Sierra Seri, near the Gulf of California, opposite Tiburon Island, in the most arid portion of Sonora, Mexico. December, 1895. Collected by Dr. W J McGee. Catalogued May 4, 1896.

This skin is represented by a rug, well-made and well preserved, and also by a few small fragments, trimmings from the skin, before it was made into a rug. Until March 29, 1902, the skin was owned by Dr. Anita N. McGee, of Washington, D. C., while the small scraps of skin were in the National Museum from the time it was catalogued, May 4, 1896. On March 29, 1902, the skin made up as a rug came into the possession of the Museum.

No type was designated. Doctor Mearns specified three individuals in the original description, namely, skin no. 63403, and two pairs of antlers, nos. 59910 and 60855. The description is based primarily on the skin, and the antlers are mentioned rather incidentally at the end of the description, prefaced by this statement: "It appears to be a larger animal than the mule deer of the Eastern Desert Tract, and unless the specimens brought home by our party are abnormal, its horns are heavier," etc., which seems to indicate that the antlers form but a minor part of the description.

**Cervus lewisii** Peale. See page 288.

**Odocoileus nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 103-104, April 30, 1898.

76201. Skin and skull. Two-year-old male. San Cristobal, Chiapas, Mexico. October 1, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8524.

Well-made skin in good condition; skull perfect.

**Odocoileus columbianus scaphiotus** Merriam. Biol. Survey coll.

Proc. Biol. Soc. Wash., XII, p. 101, April 30, 1898.

65162. Skin and skull. Adult male. Laguna Ranch, Gabilan Range, California. April 24, 1894. Collected by J. E. McLellan. Original number 797.

Well-made skin in good condition; skull perfect.

**Odocoileus columbianus sitkensis** Merriam. Biol. Survey coll.

Proc. Biol. Soc. Wash., XII, pp. 100-101, April 30, 1898.

74383. Skin and skull. Immature female. Sitka, Alaska. August 8, 1895. Collected by C. P. Streater. Original number 4767.

Well-made skin in good condition; skull perfect except slight perforations of palate and audital bullæ; left supraorbital border slightly broken; left paroccipital process broken.

**Dorcelaphus texanus** Mearns.

Proc. Biol. Soc. Wash., XII, p. 23, January 27, 1898.

=*Odocoileus texanus* (Mearns). See Thompson, Forest and Stream, LI, p. 268, October 8, 1898.

84794. Skin and skull. Adult male. Fort Clark, Kinney County, Texas. December 25, 1897. Collected by Dr. E. A. Mearns, U. S. A. Original number 4288. International Boundary Commission. Catalogued August 22, 1898.

Skin in good condition; skull nearly perfect. Antlers sawed off, but present; most of the right lower incisiform teeth broken off to the alveoli.

Type designated by the original number.

**Odocoileus thomasi** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 102-103, April 30, 1898.

77866. Skin and skull. Adult male. Huehuetan, Chiapas, Mexico. February 22, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9359.

Well-made skin in good condition; skull perfect.

## Genus MAZAMA.

**Mazama pandora** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, pp. 105-106, July 19, 1901.

108273. Skin and skull. Adult male. Tunkas, Yucatan, Mexico. February 15, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14544.

Well-made skin in good condition; skull with repaired fractures of left maxillary and zygomata; anterior part of walls of orbits, left side of palate, pterygoids, and most of vomer absent; last left upper molar missing; otherwise perfect.

## Genus CERVUS.

**Cervus merriami** Nelson.

Bull. Amer. Mus. Nat. Hist., XVI, p. 7, January 16, 1902.

111639. Skin and skull. Adult male. Head of Black River, White Mountains, Arizona. August, 1886. Collected by E. W. Nelson. Catalogued July 11, 1901.

The specimen was in the National Museum for many years without having been entered in the catalogues. The skin had data attached, but the skull was without data and it was not known to belong with the skin until the summer of 1901. In the spring of 1901 the antlers were sawed off the skull. As both antlers and skull were without number or other data, they were thought to be of little value, and no special care was taken of them with the result that the main part of the skull became misplaced. In the summer of 1901 the antlers, in the velvet, were recognized by Mr. Nelson as belonging to the skin which he had collected fifteen years before. A search was made for the skull, but only the lower jaw could be found. Mr. Nelson described the species without the complete specimen. (Cranial characters were obtained, however, from a skull in the American Museum of Natural History, New York City.) In September, 1902, the missing and main part of the skull was found in one of the Museum's storage sheds, where the antlers were originally discovered.

The skin is a tanned pelt, in fair condition, worn summer pelage. The antlers, in velvet, are nearly perfect; one tip is slightly injured. The main part of the skull is perfect. The lower jaw is injured as follows: The crowns of all the incisors and lower canines are broken off and the ascending ramus of the right half of the mandible is broken away.

The skull and antlers are at present hung on the wall of the office of the division of mammals.

**Cervus nannodes** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, pp. 23-25, February 2, 1905.

135042. Skin and skull. Two-year-old male. Buttonwillow, Kern County, California. November 12, 1904. Collected by Dr. C. Hart Merriam and E. W. Nelson. Original number 16832. (E. W. N.)

Skin tanned and in good condition; skull perfect, except fractured second right upper molar.

**Cervus roosevelti** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 272-275, December 17, 1897.

91579. Skin and skull. Adult male. Mount Elaine, Olympic Mountains, Washington. October 4, 1897. Collected by H. Emmet and C. Emmet.

Well-made skin in good condition; skull perfect, except for absence of occipital condyles and broken paroccipital processes; first and second left upper premolars, third left lower premolar, first left lower molar, and five incisors imperfect; right coronoid absent; antlers perfect, severed from skull at base.

#### Genus ALCE.

**Alces gigas** Miller.

Proc. Biol. Soc. Wash., XIII, p. 57, May 29, 1899.

=**Alce americanus gigas** (Miller). See Osgood, North Amer. Fauna, No. 24, p. 29, November 23, 1904.

86166. Skin and skull. Adult male. North side Tustumena Lake, Kenai Peninsula, Alaska. September, 1898. Collected by Dall DeWeese. Original number 16. Catalogued January 20, 1899.

The skin is a complete tanned hide, folded and in good condition. The skull is in good condition except that the pterygoids were chopped off by the collector. The skull, with antlers attached, is hung on the wall in the office of the Division of Mammals.

#### Genus MUNTIACUS.

**Muntiacus bancanus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 582, December 18, 1906.

124726. Skin and skull. Adult female. Tanjong Bedaan, Island of Banka, east of Sumatra. June 7, 1904. Collected by Dr. W. L. Abbott. Original number 3296. Catalogued November 30, 1904.

Well-made skin in good condition, skull perfect.

#### Family TRAGULIDÆ.

#### Genus TRAGULUS.

**Tragulus amœnus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 439, February 3, 1903.

114563. Skin and skull. Adult male. Pulo Mansalar, off Tapanuli Bay, west coast of Sumatra. March 8, 1902. Collected by Dr. W. L. Abbott. Original number 1632. Catalogued September 3, 1902.

Well-made skin in good condition; skull perfect.

**Tragulus bancanus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 576, December 18, 1906.

124714. Skin and skull. Adult female. Tanjong Tedong, island of Banka, east of Sumatra. May 31, 1904. Collected by Dr. W. L. Abbott. Original number 3283. Catalogued November 30, 1904.

Well-made skin in good condition; skull perfect.

**Tragulus batuanus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 2, November 6, 1903.

121695. Skin and skull. Adult female. Tana Bala, Batu Islands, off west coast of Sumatra. February 5, 1903. Collected by Dr. W. L. Abbott. Original number 2226. Catalogued August 1, 1903.

Well-made skin in good condition; skull perfect.

Type designated as number 121697 an error in cataloguing for 121695, as seen on reference to the original numbers.

**Tragulus billitonus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 578, December 18, 1906.

124929. Skin and skull. Adult male. Tanjong Batu, Billiton Island, east of Sumatra. July 20, 1904. Collected by Dr. W. L. Abbott. Original number 3524. Catalogued December 5, 1904.

Well-made skin in good condition; skull perfect, except right upper canine broken off at alveolus.

**Tragulus borneanus** Miller.

Proc. Biol. Soc. Wash., XV, p. 174, August 6, 1902.

$\frac{1}{4} \frac{2}{4} \frac{2}{4} \frac{1}{4}$ . Skin and skull. Adult male. Banks of Suanlamba River, British North Borneo. January 18, 1888. Collected by C. F. Adams. Original number K I=154. Catalogued December 5, 1890.

Skin in fair condition; formerly mounted and on exhibition; the original color much injured by pickling fluid and exposure to light; skull perfect.

When this species was described, the skin could not be found. At that time it was mounted and in storage. In April, 1907, it was made into a study skin.

**Tragulus brevipes** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 443, February 3, 1903.

114326. Skin and skull. Adult female. Pulo Bangkaru, Banjak Islands. January 20, 1902. Collected by Dr. W. L. Abbott. Original number 1443. Catalogued August 28, 1902.

Well-made skin in good condition; skull perfect.

**Tragulus bunguranensis** Miller.

Proc. Wash. Acad. Sci., III, p. 113, March 26, 1901.

104604. Skin and skull. Adult male. Bunguran Island, Natuna Islands. July 9, 1900. Collected by Dr. W. L. Abbott. Original number 547. Catalogued December 15, 1900.

Well made skin in good condition; skull perfect.

**Tragulus canescens** Miller.

Proc. Biol. Soc. Wash., XIII, p. 185, December 21, 1900.

83509. Skin and skull. Adult female. Trong (or Tarang), lower Siam. September 7, 1896. Collected by Dr. W. L. Abbott. Catalogued April 24, 1897.

Well-made skin in good condition; skull perfect except for loss of right upper canine.

**Tragulus carimatae** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1481, p. 55, July 23, 1906.

125062. Skin and skull. Young adult female. Telok Pai, Karimata Island, off west coast of Borneo. August 25, 1904. Collected by Dr. W. L. Abbott. Original number 3651. Catalogued December 8, 1904.

Well-made skin in good condition; skull perfect.

**Tragulus flavicollis** Miller.

Proc. Biol. Soc. Wash., XVI, p. 33, March 19, 1903.

115505. Skin and skull. Immature female. Pulo Sugi, Rhio-Linga Archipelago. August 24, 1902. Collected by Dr. W. L. Abbott. Original number 1957. Catalogued December 27, 1903.

Well-made skin in good condition; skull perfect.

**Tragulus focalinus** Miller.

Proc. Biol. Soc. Wash., XVI, p. 35, March 19, 1903.

120574. Skin and skull. Adult female. Near Buitenzorg, Java. October or November, 1902. Received from B. S. Rairden, U. S. consul at Batavia. Catalogued January 25, 1903.

Well made skin in good condition; skull nearly perfect; all the incisiform teeth lost except left lower canine.

**Tragulus formosus** Miller.

Proc. Biol. Soc. Wash., XVI, p. 34, March 19, 1903.

115511. Skin and skull. Adult male. Pulo Bintang, Rhio-Linga Archipelago. August 19, 1902. Collected by Dr. W. L. Abbott. Original number 1907. Catalogued December 27, 1902.

Well-made skin in good condition; skull perfect, except right upper canine and left incisiform teeth slightly chipped.

**Tragulus jugularis** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 440, February 3, 1903.

114574. Skin and skull. Adult male. Pulo Mansalar, off Tapanuli Bay, west coast of Sumatra. March 8, 1902. Collected by Dr. W. L. Abbott. Original number 1627. Catalogued September 3, 1902.

Well-made skin in good condition; skull perfect.

**Tragulus lampensis** Miller.

Proc. Biol. Soc. Wash., XVI, p. 42, March 19, 1903.

104429. Skin and skull. Adult female. Pulo Lampee or Sullivan Island, Mergui Archipelago. February 4, 1900. Collected by Dr. W. L. Abbott. Original number 299. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect.

**Tragulus lancavensis** Miller.

Proc. Biol. Soc. Wash., XVI, p. 41, March 19, 1903.

104412. Skin and skull. Adult female. Pulo Lankawi, off west coast of Malay Peninsula (about 75 miles north of Penang). December 7, 1899. Collected by Dr. W. L. Abbott. Original number 132. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect.

**Tragulus luteicollis** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 579, December 18, 1906.

124733. Skin and skull. Adult male. Tanjong Bedaan, island of Banka, east of Sumatra. June 12, 1904. Collected by Dr. W. L. Abbott. Original number 3311. Catalogued November 30, 1904.

Well-made skin in good condition; skull perfect.

**Tragulus lutescens** Miller.

Proc. Biol. Soc. Wash., XVI, p. 32, March 19, 1903.

115507. Skin and skull. Adult male. Pulo Sugi Bawa, Rhio-Linga Archipelago. September 2, 1902. Collected by Dr. W. L. Abbott. Original number 2011. Catalogued December 27, 1902.

Well-made skin in good condition; skull perfect.

**Tragulus natunæ** Miller.

Proc. Biol. Soc. Wash., XVI, p. 38, March 19, 1903.

104614. Skin and skull. Adult female. Bunguran Island, Natuna Islands. July 9, 1900. Collected by Dr. W. L. Abbott. Original number 555. Catalogued December 15, 1900.

Well-made skin in good condition; skull perfect.

**Tragulus nigricollis** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 145, June 11, 1902.

113121. Skin and skull. Adult male. Sinkep Island, Rhio-Linga Archipelago. September 6, 1901. Collected by Dr. W. L. Abbott. Original number 1292. Catalogued January 30, 1902.

Well-made skin in good condition; skull perfect.



**Tragulus nigrocinctus** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 250, September 11, 1906.

122863. Skin and skull. Adult male. Pulo Kundur, Rhio-Linga Archipelago. June 21, 1903. Collected by Dr. W. L. Abbott. Original number 2531. Catalogued January 21, 1904.

Well-made skin in good condition; skull perfect.

**Tragulus pallidus** Miller.

Proc. Wash. Acad. Sci., III, p. 116, March 26, 1901.

104616. Skin and skull. Adult female. Pulo Laut, Natuna Islands. August 11, 1900. Collected by Dr. W. L. Abbott. Original number 625. Catalogued December 15, 1900.

Well-made skin in good condition; skull perfect, except slight damage in left temporal region.

**Tragulus perflavus** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 251, September 11, 1906.

142125. Skin and skull. Adult female. Semimba Bay, Batam Island, Rhio-Linga Archipelago. September 21, 1905. Collected by C. Boden Kloss. Original number 28. Catalogued January 8, 1906.

Well-made skin in good condition; skull perfect.

**Tragulus pretiellus** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 253, September 11, 1906.

122994. Skin and skull. Adult male. Pulo Bakong, Rhio-Linga Archipelago. July 18, 1903. Collected by Dr. W. L. Abbott. Original number 2643. Catalogued January 23, 1904.

Well-made skin in good condition; skull perfect.

**Tragulus pretiosus** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 144, June 11, 1902.

113031. Skin and skull. Adult male. Linga Island, Rhio-Linga Archipelago. August 27, 1901. Collected by Dr. W. L. Abbott. Original number 1238. Catalogued January 25, 1902.

Well-made skin in good condition; skull perfect, except points of upper canines broken and a small shot hole in base of nasals.

**Tragulus ravulus** Miller.

Proc. Biol. Soc. Wash., XVI, p. 41, March 19, 1903.

104417. Skin and skull. Adult female. Pulo Adang, Butang Islands, off west coast of Malay Peninsula. December 16, 1899. Collected by Dr. W. L. Abbott. Original number 161. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect.

Type designated by number 104717, which is an error for 104417.

**Tragulus ravus** Miller.

Proc. Biol. Soc. Wash., XV, p. 173, August 6, 1902.

83506. Skin and skull. Immature female. Trong (or Tarang), lower Siam. September 6, 1896. Collected by Dr. W. L. Abbott. Catalogued April 24, 1897.

Well-made skin in good condition; skull perfect, except for loss of small right upper canine. Milk molars in place, much worn; last permanent molars not up.

**Tragulus rubeus** Miller.

Proc. Biol. Soc. Wash., XVI, p. 40, March 19, 1903.

115522. Skin and skull. Adult female. Pulo Bintang, Rhio-Linga Archipelago. August 20, 1902. Collected by Dr. W. L. Abbott. Original number 1914. Catalogued December 27, 1902.

Well-made skin in good condition; skull perfect.

**Tragulus rufulus** Miller.

Proc. Wash. Acad. Sci., II, p. 227, August 20, 1900.

101767. Skin and skull. Young adult male. Tioman Island, off southeast coast of Malay Peninsula. September 30, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Well-made skin in good condition; skull perfect, except for loss of both upper canines.

**Tragulus russeus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 444, February 3, 1903.

114337. Skin and skull. Adult male. Pulo Tuangku, Banjak Islands, off west coast of Sumatra. February 5, 1902. Collected by Dr. W. L. Abbott. Original number 1518. Catalogued August 28, 1902.

Well-made skin in good condition; skull perfect.

**Tragulus russulus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 3, November 6, 1903.

121701. Skin and skull. Adult male. Tana Bala, Batu Islands, off west coast of Sumatra. February 8, 1903. Collected by Dr. W. L. Abbott. Original number 2249. Catalogued August 1, 1903.

Well-made skin in good condition; skull perfect.

**Tragulus subrufus** Miller.

Proc. Biol. Soc. Wash., XVI, p. 39, March 19, 1903.

113119. Skin and skull. Adult female. Sinkep Island, Rhio-Linga Archipelago. September 5, 1901. Collected by Dr. W. L. Abbott. Original number 1285. Catalogued January 30, 1902.

Well-made skin in good condition; skull perfect, except left upper canine lost.

**Tragulus umbrinus** Miller.

Proc. Biol. Soc. Wash., XIII, p. 191, December 21, 1900.

104414. Skin and skull. Adult male. Pulo Lankawi, off west coast of Malay Peninsula. December 7, 1899. Collected by Dr. W. L. Abbott. Original number 134. Catalogued November 6, 1900.

Well-made skin in good condition, except for a break about the left carpal joint; skull perfect.

**Tragulus virgicollis** Miller.

Proc. Biol. Soc. Wash., XVI, p. 37, March 19, 1903.

=**Tragulus hosei** Bonhote. See Lyon, Proc. U. S. Nat. Mus., XXXIII, No. 1577, p. 549, December 24, 1907.

83941. Skin and skull. Adult male. Altitude of 3,000 feet on Mount Dulit, Sarawak, Borneo. June, 1895. Collected by Ernest Hose and Charles Hose. Catalogued December 7, 1897.

Well-made skin in good condition; skull nearly perfect, left coronoid process of mandible broken off, all incisiform teeth lost except left lower canine.

## Family SUIDÆ.

## Genus SUS.

**Sus babi** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1466, p. 752, plates 60, 61, June 13, 1906.

114283. Skin and skull. Adult male. Pulo Babi (an island about half way between Simalur and Pulo Bangkuru, the outermost of the Banjak group), west coast of Sumatra. January 14, 1902. Collected by Dr. W. L. Abbott. Original number 1413. Catalogued August 27, 1902.

Flat, folded skin in good condition; skull perfect.

**Sus jubatulus** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1466, p. 746, June 13, 1906.

123918. Skin and skull. Adult male. Pulo Terutau (also written Trotau and Trotto), off west coast of Malay Peninsula. November 11, 1903. Collected by Dr. W. L. Abbott. Original number 2859. Catalogued July 22, 1904.

Flat, folded skin in good condition; skull perfect.

**Sus jubatus** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1466, p. 745, pls. 55, 56, 58, 59, June 13, 1906.

83518. Skin and skull. Adult male. Trong (or Tarang), lower Siam. 1896. Collected by Dr. W. L. Abbott. Original number "B." Catalogued April 28, 1897.

Well-made skin in good condition; skull perfect.

**Sus mimus** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1466, p. 753, June 13, 1906.

114178. Skin and skull. Adult male. Simalur Island, west coast of Sumatra. November 25, 1901. Collected by Dr. W. L. Abbott. Original number 1353. Catalogued August 26, 1902.

Flat, folded skin in good condition; skull perfect.

**Sus natunensis** Miller.

Proc. Wash. Acad. Sci., III, p. 117, March 26, 1901.

104856. Skin and skull. Adult female. Pulo Laut, Natuna Islands. August 6, 1900. Collected by Dr. W. L. Abbott. Original number 609. Catalogued December 20, 1900.

Well-made skin in good condition; skull perfect.

**Sus niadensis** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1466, p. 751, pls. 62-64, June 12, 1906.

141167. Skin and skull. Adult female. Nias Island, off west coast of Sumatra. March 30, 1905. Collected by Dr. W. L. Abbott. Original number 4155. Catalogued July 20, 1905.

Flat, folded skin in good condition; skull perfect.

**Sus nicobaricus** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 755, May 28, 1902.

111794. Skin and skull. Young adult male. Great Nicobar Island, Nicobar Islands. March 13, 1902. Collected by Dr. W. L. Abbott. Original number 930. Catalogued August 14, 1901.

Well-made skin in good condition; skull perfect.

**Sus oi** Miller.

Proc. Biol. Soc. Wash., XV, p. 51, March 5, 1902.

113150. Skin and skull. Adult male. Banks of the Indragiri River, about 30 miles above the mouth, eastern Sumatra. September 20, 1901. Collected by Dr. W. L. Abbott. Original number 1319. Catalogued February 3, 1902.

Well-made skin in good condition; skull perfect.

**Sus peninsularis** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1466, p. 749, pl. 57, June 13, 1906.

142470. Skull only. Adult female. Near foot of Gunong Pulai, southwestern Johore. 1905. Collected by C. Boden Kloss. Catalogued January 26, 1906.

Skull perfect, except loss of four upper incisors and tip of left paroccipital process.

**Sus rhionis** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1466, p. 749, pls. 60, 61, 64, June 13, 1906.

122928. Skin and skull. Young adult male. Pulo Ungar, Rhio-Linga Archipelago. June 26, 1903. Collected by Dr. W. L. Abbott. Original number 2555. Catalogued January 22, 1904.

Flat, folded skin in good condition; skull perfect.

## Family TAYASSUIDÆ.

## Genus TAYASSU.

**Tayassu angulatus crassus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 124, July 19, 1901.

=**Tayassu angulatum crassum** Merriam. See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXXI, p. 66, 1903.

92960. Skin and skull. Young adult male. Metlaltoyuca, Puebla, Mexico. February 1, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 12127.

Well-made skin in good condition; skull perfect except for absence of right outer upper and lower incisors; left postglenoid process broken.

**Tayassu angulatus humeralis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XIV, pp. 122-123, July 19, 1901.

=**Tayassu angulatum humerale** Merriam. See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXXI, p. 66, 1903.

$\frac{3\frac{3}{4}}{4} \frac{2\frac{3}{4}}{4} \frac{3\frac{3}{4}}{4}$ . Skin and skull. Adult male (not female, as in original description). Armeria, Colima, Mexico. February 26, 1892. Collected by E. W. Nelson and E. A. Goldman. Original number 1947.

Well-made skin in good condition; skull perfect except for several small punctures in audital bullæ.

**Tayassu nanus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 102, July 19, 1901.

108516. Skin and skull. Adult male. Cozumel Island, Yucatan, Mexico. April 7, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14664.

Well-made skin in good condition; skull perfect.

**Tayassu albirostris ringens** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, pp. 121-122, July 19, 1901.

=**Tayassu pecari ringens** (Merriam). See Allen, Bull. Amer. Mus. Nat. Hist., XVI, p. 166, July 19, 1902.

108279. Skin and skull. Adult female. Apazote, near Yohaltun, Campeche, Mexico. January 1, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14383.

Well-made skin in good condition; skull perfect.

**Dicotyles angulatus sonoriensis** Mearns.

Preliminary diagnoses of new mammals of the genera *Mephitis*, *Dorcelaphus*, and *Dicotyles*, from the Mexican border of the United States, p. 3, February 11, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1129, p. 469, December 24, 1897.)

=*Tayassu angulatum sonoriense* (Mearns). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXX, p. 12, 1901.

§§§§§. Skin and skull. Adult male. San Bernardino River, Sonora, Mexico, near monument No. 77, Mexican boundary line. September 8, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 2099. International Boundary Commission. Catalogued December 13, 1892.

Poorly-made skin (laid out on side) in good condition; skull perfect, except for loss of angular process of right half of mandible.

**Tayassu angulatus yucatanensis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XIV, p. 123. July 19, 1901.

=*Tayassu angulatum yucatanense* Merriam. See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXXI, p. 66, 1903.

108282. Skin and skull. Young adult male. Tunkas, Yucatan, Mexico. February 12, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14534.

Well-made skin in good condition; skull perfect, except for absence of left outer upper incisor and slight puncture of right audital bulla; left parietal slightly cracked.

## Family TAPIRIDÆ.

## Genus TAPIRELLA.

**Elasmognathus bairdii** Gill.

Proc. Acad. Nat. Sci. Phila., 1865, p. 183, presented at meeting of October 10, 1865.

=*Tapirella bairdii* (Gill). See Elliot, Land and Sea Mammals of Middle America and West Indies, Field Columbian Mus., Zool. Ser., IV, p. 87, 1904.

6019. Skull, no skin. Isthmus of Panama. Collected by Dr. W. S. White. Catalogued April 9, 1863.

Skull in good condition, except that it has been cut in two longitudinally and that the following teeth are lost: The two middle upper incisors, the second left upper premolar, the first left upper molar, the third right upper premolar, and the third right lower incisor.

Dr. T. N. Gill designated no type-specimen. The description is based upon two skulls, adult and young, collected on the Isthmus of Panama by Dr. W. S. White. Two such specimens exist in the National Museum, entered in the catalogue April 9, 1863. The adult is here regarded as the type. In the original

description, Dr. Gill speaks of the vomer and the nasal septum, both of which are wanting in the younger specimen, and it is reasonable to assume that the remainder of the description is based upon the older and more perfect skull.

### **Elasmognathus dowii Gill.**

Amer. Jour. Sci. and Arts, 2d Ser., L, p. 142, 1870.

= **Tapirella dowii** (Gill). See Elliot, Land and Sea Mammals Middle America and West Indies, Field Columbian Mus., Zool. Ser., IV, p. 88, 1904.

11278. Skull, no skin. Nearly adult. Guatemala. Collected by Capt. J. M. Dow. Original number 1. Catalogued July 19, 1870.

Skull nearly perfect, but vomer lost, and the following teeth are missing: The two first upper premolars and the two first lower premolars; all the upper incisors and canines, except the third right incisor. The last four molars are not yet level with the alveoli.

Type not designated by number. The original description refers to four adults and one young in the Smithsonian collection, all obtained by Capt. John M. Dow. These five specimens are found to be numbers 11278-9, 11280-1-2, bearing original numbers 1, 2, 3, 4, and 5. The title of Dr. Gill's article is "A new species of Tapir, from Guatemala." It happens that but one of five specimens came from Guatemala, namely, the first, no. 11278, and that one shows the reduced fused nasals emphasized in the description better than any of the others. This specimen is plainly marked "Guatemala" in old lettering on the skull; the other four are marked "Salvador, C. A." In the catalogue, number 11278 was first entered as "Salvador, C. Am.," but the "Salvador" has a line drawn through it and "Guatemala" written above. The other four are marked "Salvador." In view of the above facts, Cat. No. 11278 must be regarded as the type.

## Family PROCAVIIDÆ.

### Genus DENDROHYRAX.

### **Dendrohyrax validus True.**

Proc. U. S. Nat. Mus., XIII, No. 814, p. 228, September 16, 1890.

$\frac{189}{34} \frac{886}{721}$ . Skin and skull. Adult male. Mount Kilimanjaro, German East Africa. June 17, 1888. Collected by Dr. W. L. Abbott. Original number 8. Catalogued June 24, 1890.

Well-made skin in good condition; skull perfect, except for the following injuries to teeth: Two middle lower incisors broken off at alveoli, also first lower left premolar, both upper incisors, first three upper premolars right side, and first two upper premolars left side all broken or worn off to the alveoli.

No type designated. Five specimens are listed by number, of which  $\frac{111}{11} \frac{288}{211}$  is here chosen as the type because, first, it heads the list; second, it is the only one of which a table of skull measurements is given; third, it is the only specimen coming from Mount Kilimanjaro, the other four coming from Taveta, and the title of the paper reads, "Description of two new species of mammals from Mt. Kilimanjaro, East Africa."

The designation of the skull number 25796 in the original description is due to an error made in the cataloguing. It has been corrected to 34721.

## Order GLIRES.

## Family LEPORIDÆ.

## Genus LEPUS.

**Lepus merriami altamiræ** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 109-110, May 18, 1904.

93691. Skin and skull. Adult male. Alta Mira, Tamaulipas, Mexico. May 16, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 12365.

Well-made skin in good condition; skull perfect, except for absence of second right upper molar, broken postorbital processes, and two perforations of the brain case.

**Lepus asellus** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 380, October 5, 1899.

♂♂♂♂. Skin and skull. Adult female. San Luis Potosi, Mexico. October 22, 1891. Collected by P. L. Jouy. Original number 270. Catalogued May 22, 1893.

Well-made skin in good condition; skull perfect, except for some pieces broken out of ascending ramus of left half of mandible.

**Lepus bairdi** Hayden. Cotype.

Amer. Nat., III, p. 115, May, 1869.

=**Lepus americanus bairdi** (Hayden). See True, Proc. U. S. Nat. Mus., VII., p. 601, 1885.

No type designated. The description is based upon specimens collected in the Columbia Valley, Wind River Mountains, near Fremonts Peak, long. 110°, lat. 43°, Fremont County, Wyoming, in the first part of June, 1860, by Dr. F. V. Hayden.

The specimens, excluding three marked young in the catalogue, are as follows:

♂<sup>A</sup>♂<sup>B</sup>♂<sup>C</sup>♂<sup>D</sup>. Male. June 2, 1860. Original number 62. Made over into fairly good study skin, March, 1902. Posterior and basal parts of brain case broken away and both ascending parts of mandible more or less injured.

♂♂♂♂. June 2, 1860. Original number 63. Neither skin nor skull can be found.

4264. Skin without skull. June 4, 1860. Original number 90. Skin can not be found.

Catalogued November, 1860, except skull no. 38001, catalogued March 22, 1902.

**Lepus arcticus canus** Preble. Biological Survey collection.

North Amer. Fauna, No. 22, pp. 59-61, October 31, 1902.

106860. Skin and skull. Immature male. Barren grounds near Hubbard Point, about 75 miles north of Fort Churchill, Keewatin,



Canada. August 17, 1900. Collected by E. A. Preble. Original number 3347.

Well-made skin in good condition; skull with right side of maxillary injured; ends of nasals (about one-third) broken away; right condyle imperfect and lower side of right mandibular ramus injured.

**Lepus americanus dalli** Merriam.

Proc. Wash. Acad. Sci., II, p. 29, March 14, 1900.

$\frac{3}{2} \frac{10}{6} \frac{2}{1} \frac{2}{1}$ . Skin and skull. Adult male. Nulato, Alaska. January 27, 1867. Collected by Dr. W. H. Dall. Original number 584. Western Union Company's Overland International Telegraph Expedition. Catalogued January 15, 1868.

Unfilled skin in winter pelage, in rather poor condition; skull perfect.

Type designated by the skull number. Skin was not known to exist at time of publication of description.

**Lepus festinus** Nelson.

Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 108-109, May 18, 1904.

53490. Skin and skull. Adult male. Irolo, Hidalgo, Mexico. March 31, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 4522.

Well-made skin in good condition; skull perfect.

**Lepus gaillardi** Mearns.

Proc. U. S. Nat. Mus., XVIII, No. 1081, p. 560, June 24, 1896.

$\frac{3}{2} \frac{9}{6} \frac{2}{1} \frac{2}{1}$ . Skin and skull. Adult male. West fork of the Playas Valley, near monument No. 63, Mexican boundary line. June 17, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1885. International Boundary Commission. Catalogued November 5, 1892.

Well-made skin in good condition; pelage somewhat worn. Skull has lost the left bulla and the outer anterior margin of the nasals are somewhat broken, as is also the condyloid process of the left half of mandible.

**Lepus texianus griseus** Mearns.

Proc. U. S. Nat. Mus., XVIII, No. 1081, p. 562, June 24, 1896.

$\frac{3}{2} \frac{10}{6} \frac{2}{1} \frac{2}{1}$ . Skin and skull. Adult female. Fort Hancock, El Paso County, Texas. June 22, 1893. Collected by Dr. E. A. Mearns, U. S. A. Original number 2353. International Boundary Commission. Catalogued July 29, 1893.

Well-made skin in good condition, but made up lying on the side instead of belly; skull perfect.

**Lepus klamathensis** Merriam.

Biological Survey collection.

North Amer. Fauna, No. 16, pp. 100-101, October 28, 1899.

92248. Skin and skull. Adult female. Fort Klamath, Oregon. January 25, 1898. Collected by B. L. Cunningham. Original number 1191x.

Well-made skin in good condition; skull perfect, except for slight injury to upper border of foramen magnum and angle of left mandibular ramus.

**Lepus labradorius** Miller. Cotypes.

Proc. Biol. Soc. Wash., XIII, p. 39, May 29, 1899.

14149. Skin. Adult. Fort Chimo, Ungava, Labrador. September 28, 1882. Collected by Lucien M. Turner. Original number 1180. This skin should have a skull, 37138, which can not be found. Skin catalogued February 2, 1884; skull, April, 1896.

Skin is well made and in good condition, pelage somewhat worn.

23132. Skull only. Adult. Same place and collector as above. Original number 2326. Catalogued January 12, 1889.

Except for loss of the two left upper incisors, the skull is perfect.

Both cotypes are designated by number. There is a typographical error in the skull number. It should be 23132 instead of 32132.

**Lepus americanus macfarlani** Merriam.

Proc. Wash. Acad. Sci., II, p. 30, March 14, 1900.

~~14148~~<sup>7111</sup>. Skin (lost) and skull. Adult male. Fort Anderson, Mackenzie, Canada. March, 1863. Collected by R. MacFarlane. Original number 319. Skull catalogued May 6, 1875; skin in 1864 or 1865.

Angular process of right half of mandible somewhat broken, and posterior edge of left half of mandible more or less injured; otherwise, skull in good condition. Catalogue calls for skin no. 7111, which can not now be found.

**Lepus californicus magdalenæ** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 81, July 22, 1907.

146168. Skin and skull. Adult male. Magdalena Island, Lower California, Mexico. November 26, 1905. Collected by E. W. Nelson and E. A. Goldman. Original number 18638.

Well-made skin in good condition; skull perfect, except for absence of left post-orbital process.

**Lepus merriami** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 2, March 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XVIII, No. 1075, p. 444, May 23, 1896.)

83797. Skin and skull. Adult female. Fort Clark, Kinney County, Texas. April 6, 1893. Collected by Dr. E. A. Mearns, U. S. A. Original number 2317. International Boundary Commission. Catalogued September 11, 1897.

Skin well-made and preserved, but made up on its side instead of belly; skull perfect, except for loss of the last upper molar on each side.

Type designated by the collector's original number.

**Lepus othus** Merriam.

Proc. Wash. Acad. Sci., II, p. 28, March 14, 1900.

15883. Skull, no skin. Adult. St. Michael, Alaska. February, 1877. Collected by Lucien M. Turner. Original number 1418. Catalogued December 11, 1877.

Left half of mandible is lost and a small piece is out of the condyloid process of the right half; the last right and left upper molars missing; otherwise, skull in good condition.

**Lepus podromus** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, p. 29, March 14, 1900.

98068. Skin and skull. Adult. Stepovak Bay, Alaska Peninsula, Alaska. July 8, 1899. Collected by C. Palache. Original number 2207 (Dr. A. K. Fisher).

Well-made skin in good condition, except for absence of left hind foot; skull perfect, except for broken left zygoma.

**Lepus saliens** Osgood. Biological Survey collection.

North Amer. Fauna, No. 19, pp. 39-40, October 6, 1900.

98956. Skin and skull. Adult male. Caribou, Yukon, Canada. June 26, 1899. Collected by W. H. Osgood. Original number 504.

Well-made skin in good condition; skull with numerous small shot perforations; right zygoma broken; anterior portion of vault of cranium, left mandibular condyle, and left lower incisor missing.

**Lepus campestris sierræ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 132-133, July 14, 1904.

67863. Skin and skull. Adult female. Hope Valley, Alpine County, California. September 9, 1894. Collected by F. Stephens. Original number 1889.

Well-made skin in good condition; skull, posterior portion of brain case, including audital bullæ and basioccipital, missing; right mandibular ramus broken in front of molar series.

**Lepus tularensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 136-137, July 14, 1904.

126334. Skin and skull. Adult female. Alila, Tulare County, California. October 25, 1900. Collected by L. J. Goldman. Original number 496.

Well-made skin in good condition; skull perfect.

**Lepus varronis** Miller.

Proc. Biol. Soc. Wash., XIV, p. 97, June 27, 1901.

105832. Skin and skull. Adult male. Heinzenberg, Canton of Graubünden, Switzerland. December 5, 1900. Collected by Ernst H. Zollikofer. Original number 196. Catalogued June 5, 1901.

Well-made skin in good condition; skull perfect.

**Lepus texianus wallawalla Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 137, July 14, 1904.

$\frac{2}{1}\frac{3}{1}\frac{3}{2}\frac{2}{2}$  (not  $\frac{2}{1}\frac{3}{1}\frac{3}{2}\frac{2}{2}$  as in original description). Skin and skull. Adult female. Touchet, Washington. September 18, 1890. Collected by C. P. Streater. Original number 271.

Well-made skin in good condition; skull perfect, except for absence of left supraorbital processes.

**Lepus washingtoni Baird.**

Proc. Acad. Nat. Sci. Phila., VII, p. 333; this paper was favorably reported for publication, April 24, 1855.

1223. Skull. Adult. Steilacoom, Washington. April 1, 1854. Collected by Dr. George Suckley. Catalogued November 9, 1854.

All four occipitals, the interparietal, tympanic, and mastoid bones of the skull are wanting, and the ascending rami of the mandible are more or less broken on the posterior edge. Otherwise the skull is in good condition. There should be a skin, no. 280, which can not now be found.

Type not designated by number, but by comparing the measurements of the original description with those in the table on page 585 of Baird's Mammals of North America it is seen that No.  $\frac{2}{1}\frac{3}{2}\frac{3}{2}$  must be regarded as the type.

## Genus SYLVILAGUS.

**Lepus sylvaticus arizonæ Allen.**

Monographs of North American Rodentia, p. 349, August, 1877.

=*Sylvilagus arizonæ* (Allen). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

8439. Skin of adult male. No record of skull. Beales Springs, 50 miles west of Fort Whipple, Yavapai County, Arizona. September 8, 1865. Collected by Dr. Elliott Coues. Original number 1563. Catalogued February 16, 1866.

A flat, poorly preserved skin; one hind leg missing; the other detached from the skin.

Type not explicitly designated by number, but on comparing Doctor Allen's remarks, p. 332, *loc. cit.*, with the list of specimens in Table 39, p. 340, it is readily seen that 8439 is the type.

**Lepus audubonii Baird.** See page 288.

**Lepus baileyi Merriam.**

Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 148, June 9, 1897.

=*Sylvilagus baileyi* (Merriam). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

56016. Skin and skull. Adult female. Spring Creek, Bighorn Basin, Wyoming. September 17, 1893. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 4372.

Well-made skin, in good condition; skull lacking right zygoma and left audital bulla; right mandibular ramus broken.

**Lepus floridanus caniclunus** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 388, October 5, 1899.

=*Sylvilagus floridanus chapmani* (Allen).

63137. Skin and skull. Adult male. Fort Clark, Kinney County, Texas. December 27, 1892. Collected by Dr. E. A. Mearns, U. S. A. Original number 2172. International Boundary Commission. Catalogued January 25, 1896.

Well-made skin in good condition; skull nearly perfect; left bulla and left last upper molar missing, a small piece out of the left ascending mandibular ramus.

**Sylvilagus auduboni cedrophilus** Nelson. Biological Survey coll.

Proc. Biol. Soc. Wash., XX, p. 83, July 22, 1907.

148287. Skin and skull. Adult female. Cactus Flat, 20 miles north of Cliff, New Mexico. November 6, 1906. Collected by V. Bailey. Original number 8595.

Well-made skin in good condition; skull perfect, except for two perforations in vault of cranium.

**Lepus floridanus chiapensis** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 106-107, May 18, 1904.

=*Sylvilagus floridanus chiapensis* (Nelson).

75953. Skin and skull. Adult female. San Cristobal, Chiapas, Mexico. September 28, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8483.

Well-made skin in good condition; skull perfect.

**Sylvilagus cognatus** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 82, July 22, 1907.

136569. Skin and skull. Adult. Tajique, near summit of Manzano Mountains, New Mexico. Altitude 10,000 feet. February, 1905. Collected by A. Rea. Original number 5331x.

Well-made skin in good condition; skull perfect.

**Lepus floridanus connectens** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 105-106, May 18, 1904.

=*Sylvilagus floridanus connectens* (Nelson).

63660. Skin and skull. Adult male. Chichicaxtle, Vera Cruz, Mexico. February 15, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5849.

Well-made skin in good condition; skull perfect.

**Sylvilagus bachmani exiguus** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 84, July 22, 1907.

139607. Skin and skull. Adult male. Yubay, 30 miles southeast of Calamahue, Lower California, Mexico. September 19, 1905.

Collected by E. W. Nelson and E. A. Goldman. Original number 18153.

Well-made skin in good condition; skull perfect, except for broken angle of right mandibular ramus.

**Lepus brasiliensis gabbi** Allen. Cotypes.

Monographs North American Rodentia, p. 349, August, 1877.

=*Sylvilagus gabbi* (Allen). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

11371. Skin and skull. Adult male. Talamanca, Costa Rica. Late in 1872 or early in 1873. Received from Prof. W. M. Gabb. Collected by J. C. Zeledon. Original number 18. Skin catalogued 1873; skull, October 20, 1899.

Specimen has been made over into a modern study skin, in good condition and state of preservation. The skull is perfect, except for some chips out of the ascending ramus of the left half of the mandible.

11372. Skin with skull inside; all data as above except original number, which is 19. Catalogued 1873.

As Dr. J. A. Allen states, this specimen is quite immature and on the whole is a wretched-looking object. It has never been made up into a modern study skin.

Dr. Allen based this species on three specimens, all designated by number on page 350, Monographs North American Rodentia. One of them, 8140, comes from Chiriqui, and the other two numbers, 11371 and 11372, from Talamanca, Costa Rica. No type or cotypes were designated. In order to avoid two type localities for a single species, the two specimens from Talamanca are considered as cotypes and the Chiriqui specimen as a paratype. This course seems perfectly justifiable, as two-thirds of the specimens upon which the description was based came from Talamanca, and the species is named in honor of the collector or, rather, donor, and both of the Talamanca specimens came from Prof. Gabb, while the Chiriqui specimen was collected by Fred Hicks.

**Lepus arizonæ goldmani** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 107-108, May 28, 1904.

=*Sylvilagus arizonæ goldmani* (Nelson).

96812. Skin and skull. Adult female (not male, as in original description). Culiacan, Sinaloa, Mexico. March 20, 1899. Collected by E. A. Goldman. Original number 13588.

Well-made skin in good condition; skull perfect.

**Lepus graysoni** Allen.

Monographs of North American Rodentia, p. 347, August, 1877.

=*Sylvilagus graysoni* (Allen). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

8318. Skin, with skull inside. Adult female. Tres Marias Islands, Mexico, probably Maria Madre Island (see Nelson, North Amer. Fauna, No. 14, p. 16, April 29, 1899). Collected during "Explora-

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tions in N. W. Mexico, Col. A. J. Grayson." Original number 135. Catalogued November 15, 1865. .

Wretched skin, in poor condition, with a skull inside.

Type not explicitly designated by number, but by comparing Dr. Allen's remarks on page 347 with the table on page 348 it is seen that 8318 is the type. The specimen is also labeled "*Lepus Graysoni* type" in Dr. Allen's handwriting.

***Lepus sylvaticus holzneri* Mearns.**

Proc. U. S. Nat. Mus., XVIII, No. 1081, p. 554, June 24, 1896.

=*Sylvilagus floridanus holzneri* (Mearns). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

58937. Skin and skull. Adult female. In the Douglas Spruce zone, near the summit of the Huachuca Mountains, southern Arizona. August 29, 1893. Collected by Frank X. Holzner. Original number 989. International Boundary Commission. Catalogued December 16, 1893.

Well-made skin in good condition; skull perfect.

***Lepus insonus* Nelson.**

Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 103-104, May 18, 1904.

=*Sylvilagus insonus* (Nelson).

126878. Skin and skull. Adult female. Omilteme, Guerrero, Mexico. May 20, 1903. Collected by E. W. Nelson and E. A. Goldman. Original number 16466.

Well-made skin in good condition, except for a small bare spot on the back; skull perfect.

***Lepus arizonæ major* Mearns.**

Proc. U. S. Nat. Mus., XVIII, No. 1081, p. 557, June 24, 1896.

=*Sylvilagus arizonæ major* (Mearns). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

$\frac{1}{2} \frac{8}{10} \frac{1}{10} \frac{2}{10}$ . Skin and skull. Adult male. Calabasas, Pima County, Arizona. October 23, 1889. Collected by Dr. L. Stejneger. Original number 3053. Catalogued January 30, 1890.

Well-made skin in good condition; skull perfect, except that right half of mandible has been broken vertically in two at middle of tooth row.

***Sylvilagus mansuetus* Nelson.**

Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 83-84, July 22, 1907.

79041. Skin and skull. Adult female (not male, as in original description). San Jose Island, Lower California, Mexico. August 2, 1895. Collected by J. E. McLellan. Original number 1444.

Well-made skin in good condition; skull perfect, except mandible, of which only the anterior part of left ramus, including teeth, is present.

**Lepus margaritæ** Miller.

Proc. Biol. Soc. Wash., XII, p. 97, April 30, 1898.

=*Sylvilagus margaritæ* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

63217. Skin and skull. Adult male. Margarita Island, Venezuela. July 1, 1895. Collected by Maj. Wirt Robinson, U. S. A. Original number 369. Catalogued March 25, 1896.

Well-made skin in good condition; skull perfect.

**Lepus arizonæ minor** Mearns.

Proc. U. S. Nat. Mus., XVIII, No. 1081, p. 557, June 24, 1896.

=*Sylvilagus arizonæ minor* (Mearns). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

7184. Skin and skull. Adult male. El Paso, Texas. February 6, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1418. International Boundary Commission. Skin catalogued April 28, 1892; skull, June 23, 1896.

Well-made skin in good condition; skull perfect, except for loss of last left lower molar and the left lower incisor broken off to the alveolus.

**Sylvilagus auduboni neomexicanus** Nelson. Biological Survey coll.

Proc. Biol. Soc. Wash., XX, p. 83, July 22, 1907.

118477. Skin and skull. Adult male. Fort Sumner, New Mexico. September 23, 1902. Collected by J. H. Gaut. Original number 506.

Well-made skin in good condition; skull perfect.

**Lepus orizibæ** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., VIII, pp. 143-144, December 29, 1893.

=*Sylvilagus orizabæ* (Merriam). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

53318. Skin and skull. Adult female. Mount Orizaba (altitude 9,500 feet), Puebla, Mexico. April 24, 1893. Collected by E. W. Nelson. Original number 4730.

Well-made skin in good condition; skull perfect, except for absence of posterior portions of both mandibular rami, including the last right lower molar.

**Lepus veræcrucis pacificus** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 104-105, May 18, 1904.

=*Sylvilagus cunicularius pacificus* (Nelson).

70622. Skin and skull. Adult male. Acapulco, Guerrero, Mexico. January 9, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7340.

Well-made skin in good condition; skull perfect, except for large shot perforation through the maxillaries beneath the base of the nasals and slight injury to right supraorbital border.



**Sylvilagus floridanus restrictus** Nelson. Biological Survey coll.

Proc. Biol. Soc. Wash., XX, p. 82, July 22, 1907.

$\frac{33}{4}$   $\frac{66}{7}$   $\frac{87}{2}$ . Skin and skull. Adult male. Zapotlan, Jalisco, Mexico. April 25, 1892. Collected by E. W. Nelson. Original number 2576.

Well-made skin in good condition; skull perfect, except mandible, of which only three fragments, including all the teeth, are present.

**Lepus sylvaticus rigidus** Mearns.

Proc. U. S. Nat. Mus., XVIII, No. 1081, p. 555, footnote, June 24, 1896.

=*Sylvilagus floridanus rigidus* (Mearns). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

$\frac{22}{3}$   $\frac{23}{6}$   $\frac{36}{7}$ . Skin and skull. Adult male. Carrizalillo Mountains, near Monument No. 31, Mexican boundary line, Grant County, New Mexico. April 21, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1680. International Boundary Commission. Catalogued July 29, 1892.

Well-made skin in good condition; skull has right bulla and exoccipital missing and both zygomatic processes of the squamosals broken, last right upper molar missing; mandible considerably broken, the right half posteriorly and the left half anteriorly.

**Lepus pinetis robustus** Bailey. Biological Survey collection.

North Amer. Fauna, No. 25, pp. 159-160, October 24, 1905.

=*Sylvilagus pinetis robustus* (Bailey).

$\frac{18}{5}$   $\frac{26}{10}$   $\frac{2}{5}$ . Skin and skull. Adult female. Davis Mountains, Texas. Altitude 6,000 feet. January 6, 1890. Collected by V. Bailey. Original number 873.

Well-made skin in good condition; skull perfect, except for absence of posterior portions of mandibular rami.

**Lepus floridanus sanctidiegi** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 389, October 5, 1899.

=*Sylvilagus floridanus sanctidiegi* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

60668. Skin and skull. Adult female. Monument number 258 (Pacific Ocean), Mexican boundary line, San Diego County, California. July 10, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3783. International Boundary Commission. Catalogued November 3, 1894.

Well-made skin in good condition; skull perfect, except that there is a chip out of right angular process.

**Sylvilagus floridanus similis** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 82, July 22, 1907.

69517. Skin and skull. Adult male. Valentine, Nebraska. November 10, 1894. Collected by C. P. Streater. Original number 4442.

Well-made skin in good condition; skull perfect, except for absence of right supraorbital process; angles of mandible each with two perforations.

**Lepus simplicianus** Miller.

Proc. Biol. Soc. Wash., XV, p. 81, April 25, 1902.

=*Sylvilagus floridanus chapmani* (Allen).

$\frac{2}{3} \frac{1}{2} \frac{0}{8} \frac{0}{8}$ . Skin and skull. Adult female. Brownsville, Texas. October 19, 1891. Collected by F. B. Armstrong. Purchased from C. K. Worthen. Original number 1402. Catalogued November 17, 1893.

Well-made skin in good condition; skull perfect, except for some slight injury about left angular process of mandible.

**Lepus floridanus subcinctus** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 386, October 5, 1899.

=*Sylvilagus floridanus subcinctus* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

$\frac{2}{3} \frac{1}{2} \frac{1}{2} \frac{1}{2}$ . Skin and skull. Adult female. Hacienda El Molino, near Negrete, Michoacan, Mexico. June 15, 1892. Collected by P. L. Jouy. Original number 415. Catalogued October 3, 1892.

Well-made skin in good condition; skull perfect.

**Lepus trowbridgii** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 333, this paper was favorably reported for publication April 24, 1855.

=*Sylvilagus bachmani* (Waterhouse). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

$\frac{3}{1} \frac{2}{2} \frac{0}{3} \frac{0}{5}$ . Skull (skin lost). Monterey, California. 1853. Collected by Lieut. W. P. Trowbridge, U. S. A. Skin catalogued December 5, 1854; skull November 29, 1854. The entry in the skull catalogue reads, "Monterey? Cal. Perhaps San Diego."

Skull considerably damaged; posterior and inferior parts of brain-case wanting, and most of right side of skull posterior to rostrum broken away. Posterior part of right half of mandible also broken. One loose bulla is present. There should be a skin, No. 310, which can not now be found.

No type designated. By referring to Mammals of North America, pages 610-612, it is seen that most of the description is based upon No. 310; moreover, the measurements of 310 agree more nearly with those given in the original description. For these reasons No.  $\frac{3}{1} \frac{2}{2} \frac{0}{3} \frac{0}{5}$  is here chosen as the type.

**Lepus truei** Allen.

Bull. Amer. Mus. Nat. Hist., III, p. 192, December 10, 1890.

=*Sylvilagus truei* (Allen). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

$\frac{6357}{34878}$ . Skin and skull. Adult. Mirador, Vera Cruz, Mexico. Collected by Dr. C. Sartorius. Original mark "e." Skin catalogued April, 1863; skull, November 27, 1890.

Skin in poor condition, laid out flat on side. A good deal of the epidermis has slipped from the feet. Skull formerly in the skin, and all the posterior parts are more or less damaged by the preservative used on the skin. The posterior parts of the brain-case and the posterior edges of the ascending rami of the mandible, especially of the right half, are lacking.

Type designated by number  $\frac{6357}{25335}$ . A large series of skulls in the Museum collection in the twenty-five thousands, was misnumbered and the skull of the present specimen, along with others, had to be renumbered, and is now 34878, instead of 25953.

**Lepus bachmani ubericolor** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 383, October 5, 1899.

=*Sylvilagus bachmani ubericolor* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 337, June 15, 1904.

$\frac{12364}{3371}$ . Skin and skull. Adult male. Beaverton, Oregon. February 25, 1890. Collected by A. W. Anthony. Original number 1226. Catalogued March 16, 1892.

Well-made skin in good condition; skull perfect, except for loss of right half of mandible.

**Sylvilagus auduboni vallicola** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 82-83, July 22, 1907.

$\frac{31257}{43122}$ . Skin and skull. Adult female. San Emigdio Ranch, Kern County, California. October 22, 1891. Collected by E. W. Nelson. Original number 1353.

Well-made skin in good condition; skull perfect, except for absence of last two right and left upper molars.

**Sylvilagus auduboni warreni** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 83, July 22, 1907.

148632. Skin and skull. Adult female. Coventry, Colorado. January 4, 1907. Collected by C. H. Smith. Original number 6312x.

Well-made skin in good condition; skull perfect, except mandible, which consists of three fragments, one including both incisors, another the left molar series, and the third the condyle and angular process.

**Lepus floridanus yucatanicus** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 384, October 5, 1899.

=*Sylvilagus floridanus yucatanicus* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 337, June 15, 1904.

$\frac{11441}{3772}$ . Skin and skull. Adult female. Merida, Yucatan, Mexico. February 22, 1865. Collected by Dr. A. Schott. Original number 207. Comision Cientifica de Yucatan, José Salazar Llarregui. Skin catalogued in 1873; skull, June 13, 1899.

Specimen recently made over into a modern study skin, well-preserved; skull quite complete, the tympanic, mastoid, and exoccipital bones of the right side broken away, and the angle of the right half of the mandible broken.

Genus BRACHYLAGUS.

**Lepus idahoensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 5, pp. 75-78, 2 figs., July 30, 1891.

=**Brachylagus idahoensis** (Merriam). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 337, June 15, 1904.

♂♂. Skin and skull. Adult male. Pahsimeroi Valley, Custer County, Idaho. September 16, 1890. Collected by V. Bailey and Dr. B. H. Dutcher, U. S. A. Original number 1816.

Well-made skin in good condition; skull perfect, except for a perforation in each audital bulla.

Genus ROMEROLAGUS.

**Romerolagus nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., X, pp. 173-174, fig. 33, Dec. 29, 1896.

57949. Skin and skull. Adult male. Mount Popocatepetl, Mexico. January 6, 1894. Collected by E. W. Nelson and E. A. Goldman.

Well-made skin in good condition; skull perfect, except for absence of last left upper molar; angle of left mandibular ramus broken.

Family OCHOTONIDÆ.

Genus OCHOTONA.

**Ochotona cansus** Lyon.

Smithsonian Miscell. Coll., L, No. 1726, p. 136, pl. 15, figs. 1-3, July 9, 1907.

144030. Skin and skull. Adult male. Taocheo, Province of Kansu, China. June 8, 1906. Collected by W. W. Simpson. Original number 13. Catalogued March 6, 1907.

Well-made skin in good condition; skull perfect.

**Lagomys collaris** Nelson.

Proc. Biol. Soc. Wash., VIII, p. 117, December 21, 1893.

=**Ochotona collaris** (Nelson). See Trouessart, Catalogus Mammalium, p. 648, 1897.

♂♂. Skin and skull. Adult. Near the head of the Tanana River, about 200 miles south of Fort Yukon, Alaska. Summer of 1880. Collected by E. W. Nelson. Original number 164. Skin catalogued June 11, 1884; skull, November 2, 1893.

Skin fairly well preserved, but badly made up; no wire in legs. Posterior and basal portions of the left half of the cranium and most of the ascending ramus of the left half of the mandible lacking; otherwise skull complete.

$\frac{6367}{34878}$ . Skin and skull. Adult. Mirador, Vera Cruz, Mexico. Collected by Dr. C. Sartorius. Original mark "e." Skin catalogued April, 1863; skull, November 27, 1890.

Skin in poor condition, laid out flat on side. A good deal of the epidermis has slipped from the feet. Skull formerly in the skin, and all the posterior parts are more or less damaged by the preservative used on the skin. The posterior parts of the brain-case and the posterior edges of the ascending rami of the mandible, especially of the right half, are lacking.

Type designated by number  $\frac{6367}{25953}$ . A large series of skulls in the Museum collection in the twenty-five thousands, was misnumbered and the skull of the present specimen, along with others, had to be renumbered, and is now 34878, instead of 25953.

**Lepus bachmani ubericolor** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 383, October 5, 1899.

=*Sylvilagus bachmani ubericolor* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 337, June 15, 1904.

$\frac{9964}{3371}$ . Skin and skull. Adult male. Beaverton, Oregon. February 25, 1890. Collected by A. W. Anthony. Original number 1226. Catalogued March 16, 1892.

Well-made skin in good condition; skull perfect, except for loss of right half of mandible.

**Sylvilagus auduboni vallicola** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 82-83, July 22, 1907.

$\frac{11251}{4122}$ . Skin and skull. Adult female. San Emigdio Ranch, Kern County, California. October 22, 1891. Collected by E. W. Nelson. Original number 1353.

Well-made skin in good condition; skull perfect, except for absence of last two right and left upper molars.

**Sylvilagus auduboni warreni** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 83, July 22, 1907.

148632. Skin and skull. Adult female. Coventry, Colorado. January 4, 1907. Collected by C. H. Smith. Original number 6312X.

Well-made skin in good condition; skull perfect, except mandible, which consists of three fragments, one including both incisors, another the left molar series, and the third the condyle and angular process.

**Lepus floridanus yucatanicus** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 384, October 5, 1899.

=*Sylvilagus floridanus yucatanicus* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 337, June 15, 1904.

$\frac{1441}{1712}$ . Skin and skull. Adult female. Merida, Yucatan, Mexico. February 22, 1865. Collected by Dr. A. Schott. Original number 207. Comision Cientifica de Yucatan, José Salazar Llarregui. Skin catalogued in 1873; skull, June 13, 1899.

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## Family ERETHIZONTIDÆ.

## Genus ERETHIZON.

**Erethizon epixanthum couesi** Mearns.

Proc. U. S. Nat. Mus., XIX, No. 1121, p. 723, July 30, 1897.

$\frac{7}{8}$   $\frac{14}{10}$ †. Skin and skull. Not quite adult. Fort Whipple, Arizona. Collected by Dr. Elliott Coues. Catalogued February 19, 1865.

Skin well preserved, but poorly made up; skull has lost both malar bones and the last upper and last lower molar of the right side: otherwise complete.

**Erethizon epixanthum myops** Merriam.

Proc. Wash. Acad. Sci., II, p. 27, March 14, 1900.

59140. Skin and skull. Old adult female. Portage Bay, Alaska. September, 1893. Collected by C. H. Townsend, U. S. Bureau of Fisheries steamer *Albatross*. Catalogued January 30, 1894.

Well-made skin in good condition, rather greasy; skull nearly perfect; upper incisors broken off to the alveoli; lower jaw can not be found.

## Family HYSTRICIDÆ.

## Genus TRICHYS.

**Trichys macrotis** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 469, February 3, 1903.

114488. Skin and skull. Adult female. Tapanuli Bay, northwestern Sumatra. February 20, 1902. Collected by Dr. W. L. Abbott. Original number 1555. Catalogued September 2, 1902.

Well-made skin in good condition; skull perfect.

## Genus ATHERURUS.

**Atherurus terutaus** Lyon.

Proc. U. S. Nat. Mus., XXXII, No. 1552, p. 587, pls. 54-56, fig. 2, June 29, 1907.

123971. Skin and skull. Adult male. Pulo Terutau (also written Trottau and Trotto), about 15 geographic miles west of the Malay Peninsula, where the 100th meridian east of Greenwich cuts the coast of the Malay Peninsula. April 12, 1904. Collected by Dr. W. L. Abbott. Original number 3223. Catalogued July 23, 1904.

Well-made skin in good condition; skull perfect.

**Atherura zygomatica** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 42, pl. 2, fig. 4, November 6, 1903.  
= *Atherurus zygomaticus* Miller. See Lyon, Proc. U. S. Nat. Mus., XXXII, No. 1552, p. 587, June 29, 1907.

112429. Skin and skull. Adult female. Pulo Aor, off coast of Johore. June 6, 1901. Collected by Dr. W. L. Abbott. Original number 1009. Catalogued November 12, 1901.

Well-made skin in good condition; skull perfect.





84149. Skin and skull. Adult male. Rio Chico de Santa Cruz, near the Cordilleras, Patagonia. February 20, 1897. Collected by O. A. Peterson. Original number 485. Catalogued March 15, 1898.

Well-made skin in good condition; skull perfect.

Type designated as No. 84194, an error for 84149. No. 84194 is a specimen of *C. sericeus*. The measurements of No. 84149 agree with those given by Dr. J. A. Allen as belonging to the type, and the specimen itself bears Dr. Allen's type label.

### *Ctenomys sericeus* Allen.

Bull. Amer. Mus. Nat. Hist., XIX, p. 187, May 9, 1903.

84189. Skin and skull. Adult male, upper Rio Chico de Santa Cruz, Cordilleras, Patagonia. February 5, 1897. Collected by O. A. Peterson. Original number 331. Catalogued March 16, 1898.

Well-made skin in good condition; skull nearly perfect; last right upper molar lost; right external auditory meatus and posterior portion of left bulla slightly injured.

Type designated as No. 84191, which is an error for No. 84189. The measurements of the skin and skull ascribed by Dr. Allen to the type are those of 84189, and do not agree with those of 84191, a smaller individual. To indicate further that No. 84189 is the type, Dr. Allen has tied to the specimen the standard red type label of the *American Museum of Natural History*, with the italicized words crossed out and the words "U. S. Nat." added, as well as the name *Ctenomys sericeus* Allen.

## Family ZAPODIDÆ.

### Genus SICISTA.

### *Sminthus flavus* True.

Proc. U. S. Nat. Mus., XVII, No. 1004, p. 341, November 15, 1894.

=*Sicista flava* (True). See Allen, Proc. Biol. Soc. Wash., XIV, p. 185, December 12, 1901.

$\frac{2}{3} \frac{0}{5} \frac{14}{5} \frac{0}{3}$ . Skin and skull. Adult male. Central Kashmir, at 11,000 feet. July 21, 1891. Collected by Dr. W. L. Abbott. Catalogued May 9, 1892.

Skin well preserved, but poorly made up; no wires in legs or tail; skull perfect, except for loss of angular process of left half of mandible and some slight damage to the right bulla.

### Genus ZAPUS.

*Zapus hudsonius alascensis* Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XI, p. 223, July 15, 1897.

73584. Skin and skull. Adult male. Yakutat, Alaska. July 5, 1895. Collected by C. P. Streater. Original number 4660.

Well-made skin in good condition; skull perfect.

- Zapus hudsonius campestris** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, pp. 20-21, August 8, 1899.
65872. Skin and skull. Adult male. Bear Lodge Mountains, Wyoming. June 12, 1894. Collected by Dr. B. H. Dutcher, U. S. A. Original number 600.  
Well-made skin in good condition; skull perfect.
- Zapus major** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, pp. 24-25, August 8, 1899.
79983. Skin and skull. Adult female. Warner Mountains, Oregon. August 4, 1896. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 5720.  
Well-made skin in good condition; skull perfect, except for slight perforation in palate.
- Zapus princeps minor** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, p. 23, August 8, 1899.
73673. Skin and skull. Adult female. Wingard, near Carlton House, Saskatchewan, Canada. July 23, 1895. Collected by J. A. Loring. Original number 3123.  
Well-made skin in good condition; skull perfect.
- Zapus trinotatus montanus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XI, p. 104, April 26, 1897.  
= **Zapus montanus** (Merriam). See Preble, North Amer. Fauna, No. 15, p. 28, August 8, 1899.
79863. Skin and skull. Adult female. Crater Lake, Mount Mazama, Oregon. August 21, 1896 (not August 19, as in original description). Collected by E. A. Preble. Original number 1388.  
Well-made skin in good condition; skull perfect.
- Zapus nevadensis** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, pp. 25-26, August 8, 1899.
94185. Skin and skull. Adult female. Ruby Mountains, Nevada. June 21, 1898. Collected by V. Bailey. Original number 6581.  
Well-made skin in good condition; skull perfect.
- Zapus princeps oregonus** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, p. 24, August 8, 1899.
78156. Skin and skull. Adult male. Elgin, Blue Mountains, Oregon. May 29, 1896. Collected by E. A. Preble. Original number 959.  
Well-made skin in good condition; skull perfect.

**Zapus pacificus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 104, April 26, 1897.

80445. Skin and skull. Young adult male. Prospect, Rogue River Valley, Oregon. August 29, 1896. Collected by E. A. Preble. Original number 1454.

Well-made skin in good condition; skull perfect.

**Zapus (Napæozapus) insignis roanensis** Preble. Biol. Survey coll.

North Amer. Fauna, No. 15, pp. 35-36, August 8, 1899.

66283. Skin and skull. Adult male. Magnetic City, base of Roan Mountain, North Carolina. May 22, 1894. Collected by A. G. Wetherby. Original number 5.

Well-made skin in good condition; skull perfect.

**Zapus tenellus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 103, April 26, 1897.

66932. Skin and skull. Adult female. Kamloops, British Columbia. August 25, 1894. Collected by C. P. Streator. Original number 4196.

Well-made skin in good condition; skull perfect, except for slight perforation of brain case.

## Family HETEROMYIDÆ.

## Genus HETEROMYS.

**Heteromys annectens** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 43, March 5, 1902.

71510. Skin and skull. Adult male. Pluma, Oaxaca, Mexico. March 18, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7674.

Well-made skin in good condition; skull perfect, except for absence of entire right upper molariform series.

**Heteromys goldmani** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 41-42, March 5, 1902.

77576. Skin and skull. Adult male. Chicharras, Chiapas, Mexico. February 7, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9244.

Well-made skin in good condition; skull perfect.

**Heteromys griseus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 42, March 5, 1902.

76062. Skin and skull. Adult male. Mountains near Tonala, Chiapas, Mexico. August 15, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8339.

Well-made skin in good condition; skull perfect.

**Heteromys goldmani lepturus** Merriam. Biological Survey coll.  
Proc. Biol. Soc. Wash., XV, p. 42, March 5, 1902.

73382. Skin and skull. Adult male. Mountains near Santo Domingo, Oaxaca, Mexico. June 20, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8120.

Well-made skin in good condition; skull perfect, except for absence of right zygoma and right upper molariform series.

**Heteromys (Xylomys) nelsoni** Merriam. Biological Survey coll.  
Proc. Biol. Soc. Wash., XV, pp. 43-44, March 5, 1902.

77920. Skin and skull. Adult male. Pinabete, Chiapas, Mexico. February 11, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9281.

Well-made skin in good condition; skull perfect.

#### Genus LIOMYS.

**Liomys canus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, pp. 44-45, March 5, 1902.

96259. Skin and skull. Adult male. Parral, Chihuahua, Mexico. September 21, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 13036.

Well-made skin in good condition; skull perfect.

**Liomys crispus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 49, March 5, 1902.

75105. Skin and skull. Adult male. Tonalá, Chiapas, Mexico. August 7, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8283.

Well-made skin in good condition; skull perfect, except for absence of jugals.

**Liomys heterothrix** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 50, March 5, 1902.

90161. Skin and skull. Adult male. San Pedro Sula, Honduras. July 16, 1897. Collected by J. C. Ingersoll. Original number 884 x.

Well-made skin in good condition; skull perfect.

**Liomys pictus isthmus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 46, March 5, 1902.

73367. Skin and skull. Adult male. Tehuantepec, Oaxaca, Mexico. April 28, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7796.

Well-made skin in good condition; skull perfect.

**Sylvilagus floridanus restrictus** Nelson. Biological Survey coll.

Proc. Biol. Soc. Wash., XX, p. 82, July 22, 1907.

$\frac{3}{4} \frac{33}{57} \frac{44}{37}$ . Skin and skull. Adult male. Zapotlan, Jalisco, Mexico. April 25, 1892. Collected by E. W. Nelson. Original number 2576.

Well-made skin in good condition; skull perfect, except mandible, of which only three fragments, including all the teeth, are present.

**Lepus sylvaticus rigidus** Mearns.

Proc. U. S. Nat. Mus., XVIII, No. 1081, p. 555, footnote, June 24, 1896.

=*Sylvilagus floridanus rigidus* (Mearns). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

$\frac{2}{3} \frac{33}{56} \frac{36}{37}$ . Skin and skull. Adult male. Carrizalillo Mountains, near Monument No. 31, Mexican boundary line, Grant County, New Mexico. April 21, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1680. International Boundary Commission. Catalogued July 29, 1892.

Well-made skin in good condition; skull has right bulla and exoccipital missing and both zygomatic processes of the squamosals broken, last right upper molar missing; mandible considerably broken, the right half posteriorly and the left half anteriorly.

**Lepus pinetis robustus** Bailey. Biological Survey collection.

North Amer. Fauna, No. 25, pp. 159-160, October 24, 1905.

=*Sylvilagus pinetis robustus* (Bailey).

$\frac{1}{2} \frac{22}{16} \frac{22}{22}$ . Skin and skull. Adult female. Davis Mountains, Texas. Altitude 6,000 feet. January 6, 1890. Collected by V. Bailey. Original number 873.

Well-made skin in good condition; skull perfect, except for absence of posterior portions of mandibular rami.

**Lepus floridanus sanctidiegi** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 389, October 5, 1899.

=*Sylvilagus floridanus sanctidiegi* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

60668. Skin and skull. Adult female. Monument number 258 (Pacific Ocean), Mexican boundary line, San Diego County, California. July 10, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3783. International Boundary Commission. Catalogued November 3, 1894.

Well-made skin in good condition; skull perfect, except that there is a chip out of right angular process.

**Sylvilagus floridanus similis** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 82, July 22, 1907.

69517. Skin and skull. Adult male. Valentine, Nebraska. November 10, 1894. Collected by C. P. Streater. Original number 4442.

Well-made skin in good condition; skull perfect, except for absence of right supraorbital process; angles of mandible each with two perforations.

### **Lepus simplicianus** Miller.

Proc. Biol. Soc. Wash., XV, p. 81, April 25, 1902.

=*Sylvilagus floridanus chapmani* (Allen).

$\frac{2}{3}$   $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$ . Skin and skull. Adult female. Brownsville, Texas. October 19, 1891. Collected by F. B. Armstrong. Purchased from C. K. Worthen. Original number 1402. Catalogued November 17, 1893.

Well-made skin in good condition; skull perfect, except for some slight injury about left angular process of mandible.

### **Lepus floridanus subcinctus** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 386, October 5, 1899.

=*Sylvilagus floridanus subcinctus* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

$\frac{2}{3}$   $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$   $\frac{1}{8}$ . Skin and skull. Adult female. Hacienda El Molino, near Negrete, Michoacan, Mexico. June 15, 1892. Collected by P. L. Jouy. Original number 415. Catalogued October 3, 1892.

Well-made skin in good condition; skull perfect.

### **Lepus trowbridgii** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 333, this paper was favorably reported for publication April 24, 1855.

=*Sylvilagus bachmani* (Waterhouse). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

$\frac{3}{1}$   $\frac{1}{2}$   $\frac{1}{3}$   $\frac{1}{4}$ . Skull (skin lost). Monterey, California. 1853. Collected by Lieut. W. P. Trowbridge, U. S. A. Skin catalogued December 5, 1854; skull November 29, 1854. The entry in the skull catalogue reads, "Monterey? Cal. Perhaps San Diego."

Skull considerably damaged; posterior and inferior parts of brain-case wanting, and most of right side of skull posterior to rostrum broken away. Posterior part of right half of mandible also broken. One loose bulla is present. There should be a skin, No. 310, which can not now be found.

No type designated. By referring to Mammals of North America, pages 610-612, it is seen that most of the description is based upon No. 310; moreover, the measurements of 310 agree more nearly with those given in the original description. For these reasons No.  $\frac{3}{1}$   $\frac{1}{2}$   $\frac{1}{3}$   $\frac{1}{4}$  is here chosen as the type.

### **Lepus truei** Allen.

Bull. Amer. Mus. Nat. Hist., III, p. 192, December 10, 1890.

=*Sylvilagus truei* (Allen). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 336, June 15, 1904.

$\frac{6367}{34878}$ . Skin and skull. Adult. Mirador, Vera Cruz, Mexico. Collected by Dr. C. Sartorius. Original mark "e." Skin catalogued April, 1863; skull, November 27, 1890.

Skin in poor condition, laid out flat on side. A good deal of the epidermis has slipped from the feet. Skull formerly in the skin, and all the posterior parts are more or less damaged by the preservative used on the skin. The posterior parts of the brain-case and the posterior edges of the ascending rami of the mandible, especially of the right half, are lacking.

Type designated by number  $\frac{6357}{25953}$ . A large series of skulls in the Museum collection in the twenty-five thousands, was misnumbered and the skull of the present specimen, along with others, had to be renumbered, and is now 34878, instead of 25953.

**Lepus bachmani ubericolor** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 383, October 5, 1899.

=*Sylvilagus bachmani ubericolor* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 337, June 15, 1904.

$\frac{13964}{56374}$ . Skin and skull. Adult male. Beaverton, Oregon. February 25, 1890. Collected by A. W. Anthony. Original number 1226. Catalogued March 16, 1892.

Well-made skin in good condition; skull perfect, except for loss of right half of mandible.

**Sylvilagus auduboni vallicola** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 82-83, July 22, 1907.

$\frac{14151}{31751}$ . Skin and skull. Adult female. San Emigdio Ranch, Kern County, California. October 22, 1891. Collected by E. W. Nelson. Original number 1353.

Well-made skin in good condition; skull perfect, except for absence of last two right and left upper molars.

**Sylvilagus auduboni warreni** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 83, July 22, 1907.

148632. Skin and skull. Adult female. Coventry, Colorado. January 4, 1907. Collected by C. H. Smith. Original number 6312x.

Well-made skin in good condition; skull perfect, except mandible, which consists of three fragments, one including both incisors, another the left molar series, and the third the condyle and angular process.

**Lepus floridanus yucatanicus** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 384, October 5, 1899.

=*Sylvilagus floridanus yucatanicus* (Miller). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 337, June 15, 1904.

$\frac{14411}{17411}$ . Skin and skull. Adult female. Merida, Yucatan, Mexico. February 22, 1865. Collected by Dr. A. Schott. Original number 207. Comision Cientifica de Yucatan, José Salazar Llarregui. Skin catalogued in 1873; skull, June 13, 1899.

Specimen recently made over into a modern study skin, well-preserved; skull quite complete, the tympanic, mastoid, and exoccipital bones of the right side broken away, and the angle of the right half of the mandible broken.

Genus BRACHYLAGUS.

**Lepus idahoensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 5, pp. 75-78, 2 figs., July 30, 1891.

=**Brachylagus idahoensis** (Merriam). See Lyon, Smithsonian Miscell. Coll., XLV, No. 1456, p. 337, June 15, 1904.

$\frac{3}{1}\frac{4}{4}\frac{1}{1}$ . Skin and skull. Adult male. Pahsimeroi Valley, Custer County, Idaho. September 16, 1890. Collected by V. Bailey and Dr. B. H. Dutcher, U. S. A. Original number 1816.

Well-made skin in good condition; skull perfect, except for a perforation in each audital bulla.

Genus ROMEROLAGUS.

**Romerolagus nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., X, pp. 173-174, fig. 33, Dec. 29, 1896.

57949. Skin and skull. Adult male. Mount Popocatepetl, Mexico. January 6, 1894. Collected by E. W. Nelson and E. A. Goldman.

Well-made skin in good condition; skull perfect, except for absence of last left upper molar; angle of left mandibular ramus broken.

Family OCHOTONIDÆ.

Genus OCHOTONA.

**Ochotona cansus** Lyon.

Smithsonian Miscell. Coll., L, No. 1726, p. 136, pl. 15, figs. 1-3, July 9, 1907.

144030. Skin and skull. Adult male. Taocheo, Province of Kansu, China. June 8, 1906. Collected by W. W. Simpson. Original number 13. Catalogued March 6, 1907.

Well-made skin in good condition; skull perfect.

**Lagomys collaris** Nelson.

Proc. Biol. Soc. Wash., VIII, p. 117, December 21, 1893.

=**Ochotona collaris** (Nelson). See Trouessart, Catalogus Mammalium, p. 648, 1897.

$\frac{1}{1}\frac{3}{3}\frac{4}{4}$ . Skin and skull. Adult. Near the head of the Tanana River, about 200 miles south of Fort Yukon, Alaska. Summer of 1880. Collected by E. W. Nelson. Original number 164. Skin catalogued June 11, 1884; skull, November 2, 1893.

Skin fairly well preserved, but badly made up; no wire in legs. Posterior and basal portions of the left half of the cranium and most of the ascending ramus of the left half of the mandible lacking; otherwise skull complete.



## Family ERETHIZONTIDÆ.

## Genus ERETHIZON.

**Erethizon epixanthum couesi** Mearns.

Proc. U. S. Nat. Mus., XIX, No. 1121, p. 723, July 30, 1897.

$\frac{78}{80} \frac{14}{1}$ . Skin and skull. Not quite adult. Fort Whipple, Arizona. Collected by Dr. Elliott Coues. Catalogued February 19, 1865.

Skin well preserved, but poorly made up; skull has lost both malar bones and the last upper and last lower molar of the right side: otherwise complete.

**Erethizon epixanthum myops** Merriam.

Proc. Wash. Acad. Sci., II, p. 27, March 14, 1900.

59140. Skin and skull. Old adult female. Portage Bay, Alaska. September, 1893. Collected by C. H. Townsend, U. S. Bureau of Fisheries steamer *Albatross*. Catalogued January 30, 1894.

Well-made skin in good condition, rather greasy; skull nearly perfect; upper incisors broken off to the alveoli; lower jaw can not be found.

## Family HYSTRICIDÆ.

## Genus TRICHYS.

**Trichys macrotis** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 469, February 3, 1903.

114488. Skin and skull. Adult female. Tapanuli Bay, northwestern Sumatra. February 20, 1902. Collected by Dr. W. L. Abbott. Original number 1555. Catalogued September 2, 1902.

Well-made skin in good condition; skull perfect.

## Genus ATHERURUS.

**Atherurus terutaus** Lyon.

Proc. U. S. Nat. Mus., XXXII, No. 1552, p. 587, pls. 54-56, fig. 2, June 29, 1907.

123971. Skin and skull. Adult male. Pulo Terutau (also written Trotau and Trotto), about 15 geographic miles west of the Malay Peninsula, where the 100th meridian east of Greenwich cuts the coast of the Malay Peninsula. April 12, 1904. Collected by Dr. W. L. Abbott. Original number 3223. Catalogued July 23, 1904.

Well-made skin in good condition; skull perfect.

**Atherura zygomatica** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 42, pl. 2, fig. 4, November 6, 1903 = *Atherurus zygomaticus* Miller. See Lyon, Proc. U. S. Nat. Mus., XXXII, No. 1552, p. 587, June 29, 1907.

112429. Skin and skull. Adult female. Pulo Aor, off coast of Johore. June 6, 1901. Collected by Dr. W. L. Abbott. Original number 1009. Catalogued November 12, 1901.

Well-made skin in good condition; skull perfect.

## Genus THECURUS.

**Thecurus sumatræ** Lyon.

Proc. U. S. Nat. Mus., XXXII, No. 1552, p. 583, pls. 54-56, fig. 1, and pl. 57, figs. 2, 9, 10, June 29, 1907.

143432. Skin and skull. Adult male. Aru Bay, east coast of Sumatra. January 17, 1906. Collected by Dr. W. L. Abbott. Original number 4637. Catalogued June 23, 1906.

Well-made skin in good condition; skull perfect.

## Family OCTODONTIDÆ.

## Genus CAPROMYS.

**Capromys prehensilis gundlachi** Chapman.

Bull. Amer. Mus. Nat. Hist., XIV, p. 317, pl. 39, November 12, 1901.

103905. Skin and skull. Adult male. Nueva Gerona, Isle of Pines, Cuba. July 4, 1900. Collected by William Palmer and J. H. Riley. Original number 505. Catalogued October 15, 1900.

Well-made skin in good condition; skull perfect.

**Capromys brachyurus thoracatus** True.

Proc. U. S. Nat. Mus., XI, p. 469, September 3, 1889.

=**Capromys thoracatus** (True). See Chapman, Bull. Amer. Mus. Nat. Hist., XXI, p. 321, November 12, 1901.

13337. Skin and skull. Adult male. Little Swan Island, Caribbean Sea. March 6, 1887. Collected by C. H. Townsend. Catalogued June 26, 1887.

Skin well preserved, but not well made up; skull perfect.

Type not designated by number, but of the two original specimens Dr. True has personally selected the above as the type and placed a red label upon it.

## Genus PROECHIMYS.

**Proechimys guairæ** Thomas.

Proc. Biol. Soc. Wash., XIV, p. 27, April 2, 1901.

102731. Skin and skull. Adult male. La Guaira, Venezuela. July 8, 1900. Collected by Major Wirt Robinson, U. S. A. and Dr. M. W. Lyon, jr. Original number 81. Catalogued September 19, 1900.

Fairly well-made skin in fair condition; skull perfect.

## Genus CTENOMYS.

**Ctenomys robustus** Allen.

Bull. Amer. Mus. Nat. Hist., XIX, p. 185, May 9, 1903. Preoccupied by *Ctenomys robustus* Philippi (An. Mus. Nac. Chile, Zool. entr. 13, p. 11, 1896.)

=**Ctenomys osgoodi** Allen. Princeton Exped. Patagonia, III, Mamm., p. 191, 1905.

84149. Skin and skull. Adult male. Rio Chico de Santa Cruz, near the Cordilleras, Patagonia. February 20, 1897. Collected by O. A. Peterson. Original number 485. Catalogued March 15, 1898.

Well-made skin in good condition; skull perfect.

Type designated as No. 84194, an error for 84149. No. 84194 is a specimen of *C. sericeus*. The measurements of No. 84149 agree with those given by Dr. J. A. Allen as belonging to the type, and the specimen itself bears Dr. Allen's type label.

### **Ctenomys sericeus** Allen.

Bull. Amer. Mus. Nat. Hist., XIX, p. 187, May 9, 1903.

84189. Skin and skull. Adult male, upper Rio Chico de Santa Cruz, Cordilleras, Patagonia. February 5, 1897. Collected by O. A. Peterson. Original number 331. Catalogued March 16, 1898.

Well-made skin in good condition; skull nearly perfect; last right upper molar lost; right external auditory meatus and posterior portion of left bulla slightly injured.

Type designated as No. 84191, which is an error for No. 84189. The measurements of the skin and skull ascribed by Dr. Allen to the type are those of 84189, and do not agree with those of 84191, a smaller individual. To indicate further that No. 84189 is the type, Dr. Allen has tied to the specimen the standard red type label of the *American Museum of Natural History*, with the italicized words crossed out and the words "U. S. Nat." added, as well as the name *Ctenomys sericeus* Allen.

## Family ZAPODIDÆ.

### Genus SICISTA.

#### **Sminthus flavus** True.

Proc. U. S. Nat. Mus., XVII, No. 1004, p. 341, November 15, 1894.

=*Sicista flava* (True). See Allen, Proc. Biol. Soc. Wash., XIV, p. 185, December 12, 1901.

$\frac{2}{3} \frac{0140}{5503}$ . Skin and skull. Adult male. Central Kashmir, at 11,000 feet. July 21, 1891. Collected by Dr. W. L. Abbott. Catalogued May 9, 1892.

Skin well preserved, but poorly made up; no wires in legs or tail; skull perfect, except for loss of angular process of left half of mandible and some slight damage to the right bulla.

### Genus ZAPUS.

**Zapus hudsonius alascensis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XI, p. 223, July 15, 1897.

73584. Skin and skull. Adult male. Yakutat, Alaska. July 5, 1895. Collected by C. P. Streater. Original number 4660.

Well-made skin in good condition; skull perfect.

- Zapus hudsonius campestris** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, pp. 20-21, August 8, 1899.
65872. Skin and skull. Adult male. Bear Lodge Mountains, Wyoming. June 12, 1894. Collected by Dr. B. H. Dutcher, U. S. A. Original number 600.  
Well-made skin in good condition; skull perfect.
- Zapus major** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, pp. 24-25, August 8, 1899.
79983. Skin and skull. Adult female. Warner Mountains, Oregon. August 4, 1896. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 5720.  
Well-made skin in good condition; skull perfect, except for slight perforation in palate.
- Zapus princeps minor** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, p. 23, August 8, 1899.
73673. Skin and skull. Adult female. Wingard, near Carlton House, Saskatchewan, Canada. July 23, 1895. Collected by J. A. Loring. Original number 3123.  
Well-made skin in good condition; skull perfect.
- Zapus trinotatus montanus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XI, p. 104, April 26, 1897.  
= **Zapus montanus** (Merriam). See Preble, North Amer. Fauna, No. 15, p. 28, August 8, 1899.
79863. Skin and skull. Adult female. Crater Lake, Mount Mazama, Oregon. August 21, 1896 (not August 19, as in original description). Collected by E. A. Preble. Original number 1388.  
Well-made skin in good condition; skull perfect.
- Zapus nevadensis** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, pp. 25-26, August 8, 1899.
94185. Skin and skull. Adult female. Ruby Mountains, Nevada. June 21, 1898. Collected by V. Bailey. Original number 6581.  
Well-made skin in good condition; skull perfect.
- Zapus princeps oregonus** Preble. Biological Survey collection.  
North Amer. Fauna, No. 15, p. 24, August 8, 1899.
78156. Skin and skull. Adult male. Elgin, Blue Mountains, Oregon. May 29, 1896. Collected by E. A. Preble. Original number 959.  
Well-made skin in good condition; skull perfect.

**Zapus pacificus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 104, April 26, 1897.

80445. Skin and skull. Young adult male. Prospect, Rogue River Valley, Oregon. August 29, 1896. Collected by E. A. Preble. Original number 1454.

Well-made skin in good condition; skull perfect.

**Zapus (Napæozapus) insignis roanensis** Preble. Biol. Survey coll.

North Amer. Fauna, No. 15, pp. 35-36, August 8, 1899.

66283. Skin and skull. Adult male. Magnetic City, base of Roan Mountain, North Carolina. May 22, 1894. Collected by A. G. Wetherby. Original number 5.

Well-made skin in good condition; skull perfect.

**Zapus tenellus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 103, April 26, 1897.

66932. Skin and skull. Adult female. Kamloops, British Columbia. August 25, 1894. Collected by C. P. Streater. Original number 4196.

Well-made skin in good condition; skull perfect, except for slight perforation of brain case.

## Family HETEROMYIDÆ.

## Genus HETEROMYS.

**Heteromys annectens** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 43, March 5, 1902.

71510. Skin and skull. Adult male. Pluma, Oaxaca, Mexico. March 18, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7674.

Well-made skin in good condition; skull perfect, except for absence of entire right upper molariform series.

**Heteromys goldmani** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 41-42, March 5, 1902.

77576. Skin and skull. Adult male. Chicharras, Chiapas, Mexico. February 7, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9244.

Well-made skin in good condition; skull perfect.

**Heteromys griseus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 42, March 5, 1902.

76062. Skin and skull. Adult male. Mountains near Tonalá, Chiapas, Mexico. August 15, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8339.

Well-made skin in good condition; skull perfect.

**Heteromys goldmani lepturus** Merriam. Biological Survey coll.  
Proc. Biol. Soc. Wash., XV, p. 42, March 5, 1902.

73382. Skin and skull. Adult male. Mountains near Santo Domingo, Oaxaca, Mexico. June 20, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8120.

Well-made skin in good condition; skull perfect, except for absence of right zygoma and right upper molariform series.

**Heteromys (Xylomys) nelsoni** Merriam. Biological Survey coll.  
Proc. Biol. Soc. Wash., XV, pp. 43-44, March 5, 1902.

77920. Skin and skull. Adult male. Pinabete, Chiapas, Mexico. February 11, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9281.

Well-made skin in good condition; skull perfect.

#### Genus LIOMYS.

**Liomys canus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, pp. 44-45, March 5, 1902.

96259. Skin and skull. Adult male. Parral, Chihuahua, Mexico. September 21, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 13036.

Well-made skin in good condition; skull perfect.

**Liomys crispus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 49, March 5, 1902.

75105. Skin and skull. Adult male. Tonalá, Chiapas, Mexico. August 7, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8283.

Well-made skin in good condition; skull perfect, except for absence of jugals.

**Liomys heterothrix** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 50, March 5, 1902.

90161. Skin and skull. Adult male. San Pedro Sula, Honduras. July 16, 1897. Collected by J. C. Ingersoll. Original number 884 x.

Well-made skin in good condition; skull perfect.

**Liomys pictus isthmus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 46, March 5, 1902.

73367. Skin and skull. Adult male. Tehuantepec, Oaxaca, Mexico. April 28, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7796.

Well-made skin in good condition; skull perfect.

- Liomys torridus minor* Merriam.** Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 45, March 5, 1902.
70301. Skin and skull. Adult female. Huajuapam, Oaxaca, Mexico.  
November 18, 1894. Collected by E. W. Nelson and E. A. Goldman.  
Original number 7061.  
Well-made skin in good condition; skull perfect.
- Liomys obscurus* Merriam.** Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 48, March 5, 1902.
108563. Skin and skull. Adult female. Carrizal, Vera Cruz, Mexico.  
May 12, 1901. Collected by E. W. Nelson and E. A. Goldman.  
Original number 14714.  
Well-made skin in good condition; skull perfect.
- Liomys orbitalis* Merriam.** Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, pp. 48-49, March 5, 1902.
65452. Skin and skull. Adult female. Catenaco, Vera Cruz, Mexico.  
April 29, 1894. Collected by E. W. Nelson and E. A. Goldman.  
Original number 6129.  
Well-made skin in good condition; skull perfect, except for absence of pterygoids and adjoining parts of palate.
- Liomys parviceps* Goldman.** Biological Survey collection.  
Proc. Biol. Soc. Wash., XVII, p. 82, March 21, 1904.
126477. Skin and skull. Adult female. La Salada, Michoucan, Mexico.  
March 19, 1903. Collected by E. W. Nelson and E. A. Goldman.  
Original number 16194.  
Well-made skin in good condition; skull perfect.
- Liomys phæura* Merriam.** Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 48, March 5, 1902.
71500. Skin and skull. Adult female. Pinotepa, Oaxaca, Mexico.  
February 21, 1895. Collected by E. W. Nelson and E. A. Goldman.  
Original number 7553.  
Well-made skin in good condition; skull perfect, except for absence of last left lower molar.
- Liomys plantinarenis* Merriam.** Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 46, March 5, 1902.
1773. Skin and skull. Adult female. Plantinar, Jalisco, Mexico.  
April 4, 1892. Collected by E. W. Nelson and E. A. Goldman.  
Original number 2383.  
Well-made skin in good condition; skull perfect, except for absence of right jugal.

***Liomys pictus rostratus* Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 46, March 5, 1902.

71488. Skin and skull. Adult male. Ometepe, Guerrero, Mexico. February 14, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7447.

Well-made skin in good condition; skull perfect, except slightly broken nasals; five upper and three lower cheek teeth missing.

***Liomys crispus setosus* Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 49, March 5, 1902.

77588. Skin and skull. Adult female. Huehuetan, Chiapas, Mexico. February 22, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9364.

Well-made skin in good condition; skull perfect, except for broken supra-occipital; last two lower molars on each side missing.

***Liomys sonorana* Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 47, March 5, 1902.

96252. Skin and skull. Adult male. Alamos, Sonora, Mexico. December 19, 1898. Collected by E. A. Goldman. Original number 13299.

Well-made skin in good condition; skull perfect, except for absence of last upper molar on each side.

***Liomys texensis* Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 44, March 5, 1902.

58670. Skin and skull. Adult female. Brownsville, Texas. February 19, 1894. Collected by J. A. Loring. Original number 1672.

Well-made skin in good condition; skull perfect.

***Liomys torridus* Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 45, March 5, 1902.

69645. Skin and skull. Adult female. Cuicatlan, Oaxaca, Mexico. October 14, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6904.

Well-made skin in good condition; skull perfect.

***Liomys veracrucis* Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 47, March 5, 1902.

65457. Skin and skull. Adult female. San Andres Tuxtla, Vera Cruz, Mexico. May 7, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6174.

Well-made skin in good condition; skull perfect.



## Genus PEROGNATHUS.

- Perognathus penicillatus ammophilus** Osgood. Biol. Survey coll.  
Proc. Biol. Soc. Wash., XX, pp. 20-21, February 23, 1907.  
146859. Skin and skull. Adult male. Margarita Island, Lower California, Mexico. November 29, 1905. Collected by E. W. Nelson and E. A. Goldman. Original number 18655.  
Well-made skin in good condition; skull perfect.
- Perognathus amplus** Osgood. Biological Survey collection.  
North Amer. Fauna, No. 18, pp. 32-33, pl. 1, fig. 2, September 20, 1900.  
 $\frac{34}{46} \frac{22}{71}$ . Skin and skull. Adult male. Fort Verde, Yavapai County, Arizona. June 26, 1892. Collected by J. A. Loring. Original number 272.  
Well-made skin in good condition; skull perfect.
- Perognathus penicillatus angustirostris** Osgood. Biol. Survey coll.  
North Amer. Fauna, No. 18, p. 47, September 20, 1900.  
73881. Skin and skull. Adult male. Carrizo Creek, Colorado Desert, California. March 31, 1895. Collected by A. W. Anthony. Original number 22.  
Well-made skin in good condition; skull perfect.
- Perognathus anthonyi** Osgood. Biological Survey collection.  
North Amer. Fauna, No. 18, pp. 56-57, September 20, 1900.  
81058. Skin and skull. Adult female. South Bay, Cerros Island, Lower California, Mexico. July 29, 1896. Collected by A. W. Anthony. Original number 71.  
Well-made skin in good condition; skull perfect, except for absence of right jugal.
- Perognathus panamintimus arenicola** Stephens. Biol. Survey coll.  
Proc. Biol. Soc. Wash., XIII, p. 153, June 13, 1900.  
99828. Skin and skull. Adult male. San Felipe Narrows, San Diego County, California. April 11, 1892. Collected by F. Stephens. Original number 2056 (2622x).  
Well-made skin in good condition; skull perfect, except for absence of angular process of left mandibular ramus.
- Perognathus artus** Osgood. Biological Survey collection.  
North Amer. Fauna, No. 18, p. 55, September 20, 1900.  
96298. Skin and skull. Adult female. Batopilas, Chihuahua, Mexico. October 6, 1898. Collected by E. A. Goldman. Original number 13090.  
Well-made skin in good condition; skull perfect.

**Perognathus baileyi** Merriam. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1894, pp. 262-263, fig. 1, September 27, 1894.

$\frac{11333}{24778}$ . Skin and skull. Adult female. Magdalena, Sonora, Mexico. November 3, 1889. Collected by V. Bailey. Original number 633.

Well-made skin in good condition; skull perfect.

**Perognathus bimaculatus** Merriam.

North Amer. Fauna, No. 1, p. 12, October 25, 1889.

=**Perognathus flavus bimaculatus** (Merriam). See Osgood, North Amer. Fauna, No. 18, p. 24, September 20, 1900.

$\frac{8455}{23789}$ . Skin and skull. Adult male. Fort Whipple, Yavapai County, Arizona. May 21, 1865. Collected by Dr. Elliott Coues. "Expls. in the Rocky Mts., No. 1499, Dr. Elliott Coues, U. S. A." Skin catalogued February 12, 1866; skull, July 3, 1889.

Fairly well-made skin in good condition. It was probably first made up with the skull inside, which has since been taken out. But little of the skull is present. Most of lower jaw, rostrum and upper incisors, each of the upper tooth rows in a separate piece, and parts of the parietals are present.

**Perognathus bombycinus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 19-20, February 23, 1907.

136123. Skin and skull. Adult male. Yuma, Arizona. March 18, 1905. Collected by E. A. Goldman. Original number 16844.

Well-made skin in good condition; skull perfect, except for absence of right jugal and injury to right audital bulla.

**Perognathus callistus** Osgood. Biological Survey collection.

North Amer. Fauna, No. 18, p. 28, September 20, 1900.

88245. Skin and skull. Young adult male. Kinney Ranch, near Bitter Creek, Sweetwater County, Wyoming. May 14, 1897. Collected by J. A. Loring. Original number 4122.

Well-made skin in good condition; skull perfect.

**Perognathus (Chætodipus) intermedius canescens** Merriam.

Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1894, pp. 267-268, September 27, 1894.

=**Perognathus nelsoni canescens** (Merriam). See Osgood, North Amer. Fauna, No. 18, p. 54, September 20, 1900.

51016. Skin and skull. Young adult male. Jaral, Coahuila, Mexico. January 14, 1893. Collected by C. P. Streater. Original number 2557.

Well-made skin in good condition; skull perfect.

**Perognathus columbianus** Merriam. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1894, pp. 263-264, fig. 2, September 27, 1894.

= **Perognathus lordi columbianus** (Merriam). See Osgood, North Amer. Fauna, No. 18, p. 40, September 20, 1900.

$\frac{2}{3} \frac{1}{4} \frac{1}{5} \frac{1}{6}$ . Skin and skull. Young adult male. Pasco, Washington.

May 9, 1891. Collected by C. P. Streater. Original number 768.

Well-made skin in good condition; skull perfect.

**Perognathus californicus dispar** Osgood. Biological Survey coll.

North Amer. Fauna, No. 18, pp. 58-59, September 20, 1900.

$\frac{2}{3} \frac{1}{4} \frac{1}{5} \frac{1}{6}$ . Skin and skull. Adult male. Carpenteria, Santa Barbara

County, California. December 19, 1891. Collected by E. W. Nelson. Original number 1655.

Well-made skin in good condition; skull perfect.

**Perognathus (Chætodipus) eremicus** Mearns.

Bull. Amer. Mus. Nat. Hist., X, p. 300, August 31, 1898.

= **Perognathus penicillatus eremicus** (Mearns). See Osgood, North Amer. Fauna, No. 18, p. 48, September 20, 1900.

$\frac{2}{3} \frac{1}{4} \frac{1}{5} \frac{1}{6}$ . Skin and skull. Adult female. Fort Hancock, El Paso County,

Texas. June 27, 1893. Collected by Dr. E. A. Mearns, U. S. A. Original number 2380. Catalogued July 29, 1893.

Well-made skin in good condition, but the tail has a break in both proximal and distal portions. Skull nearly perfect; a piece out of supraoccipital; right malar lacking.

**Perognathus fallax** Merriam.

North Amer. Fauna, No. 1, p. 19, October 25, 1889.

$\frac{1}{2} \frac{2}{3} \frac{3}{4} \frac{4}{5}$ . Skin and skull. Adult male. San Bernardino, California.

"Reche Canyon, 3 miles southeast of Colton, San Bernardino County." (Osgood, North Amer. Fauna, No. 18, p. 55.) April 21, 1887. Collected by F. Stephens. Original number 424. Catalogued June 17, 1887.

Well-made skin in good condition; skull perfect.

**Perognathus flavus** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 332, this paper was favorably reported for publication April 24, 1855.

$\frac{1}{1} \frac{4}{3} \frac{8}{0}$ . Fragment of skull (skin lost). El Paso, Texas. 1851. Col-

lected by J. H. Clark. United States and Mexican Boundary Survey. Catalogued May 19, 1853.

The skull, No. 1130, is represented by the anterior part of the rostrum only. The skin can not be found.

Type not designated by number. Baird says, "Collected at El Paso by J. H. Clark." By referring to Mammals of North America, p. 425, it is seen that  $\frac{1}{1} \frac{4}{3} \frac{8}{0}$  is the specimen he must have had in mind, and is consequently the type.

**Perognathus fuliginosus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 3, p. 74, September 4, 1890.

=**Perognathus flavus fuliginosus** (Merriam). See Osgood, North Amer. Fauna, No. 18, p. 25, September 20, 1900.

$\frac{17}{17} \frac{14}{14} \frac{14}{14}$ . Skin and skull. Immature male. Cedar belt, northeast of San Francisco Mountain, Arizona. October 4, 1889. Collected by V. Bailey. Original number 559.

Well-made skin in good condition; skull nearly complete, but consisting of three separate sections; interparietal missing.

**Perognathus merriami gilvus** Osgood. Biological Survey coll.

North Amer. Fauna, No. 18, pp. 22-23, September 20, 1900.

$\frac{5}{4} \frac{3}{3} \frac{3}{3} \frac{3}{3}$ . Skin and skull. Adult male. Eddy (=Carlsbad), New Mexico. September 18, 1892. Collected by Dr. B. H. Dutcher, U. S. A. Original number 329.

Well-made skin with right hind leg missing; otherwise in good condition; skull perfect.

**Perognathus goldmani** Osgood. Biological Survey collection.

North Amer. Fauna, No. 18, pp. 54-55, September 20, 1900.

96673. Skin and skull. Adult female. Sinaloa, Sinaloa, Mexico. February 15, 1899. Collected by E. A. Goldman. Original number 13428.

Well-made skin in good condition; skull perfect.

**Perognathus hispidus** Baird.

Mammals of North America, p. 421, 1857.

$\frac{17}{17} \frac{11}{11}$ . Skin and skull. Adult female. Charco Escondido, Tamaulipas, Mexico. 1853. Collected by Lieut. D. N. Couch, U. S. A. Catalogued March 15, 1855.

Badly-made skin with bare patches on the right flank and on the back. Tail never skinned out and tip gone. Skull in bad condition. All the upper teeth lacking; pterygoid region broken, both zygomata lacking; a large hole in the middle of the cranium. Lower jaw almost perfect. This skull apparently consists of sections of two different specimens glued together. (See Osgood, North Amer. Fauna, No. 18, p. 43, September 20, 1900.)

No type designated, but the description is clearly based upon No. 577.

**Perognathus inornatus** Merriam.

North Amer. Fauna, No. 1, p. 15, October 25, 1889.

=**Perognathus longimembris** (Coues). See Osgood, North Amer. Fauna, No. 18, p. 33, September 20, 1900.

$\frac{13}{13} \frac{13}{13} \frac{14}{14}$ . In alcohol, with skull removed. Young adult male. Fresno, California. Collected by Gustav Eisen. Alcoholic catalogued February 6, 1882; skull, July 3, 1889.

Specimen generally well preserved, but the color looks changed; some hair has slipped from the left side. Exoccipitals of skull missing and the right bulla damaged; right half of mandible practically perfect; left half broken in two pieces.

**Otognosis longimembris** Coues.

Proc. Acad. Nat. Sci. Phila., 1875, p. 305, August 31, 1875.

= *Perognathus longimembris* (Coues). See Merriam, North Amer. Fauna, No. 1, p. 13, October 25, 1889.

$\frac{98}{57} \frac{56}{35} \frac{6}{6}$ . In alcohol, with skull removed. Female. Fort Tejon, Cañada de las Uvas, Kern County, California. Collected by John Xantus. Alcoholic catalogued January, 1872; skull, April 4, 1898.

Alcoholic in poor condition; it has the appearance of having been completely dried at one time. The skull lacks the right malar. There is a large hole in the right audital bulla and a small one in the left bulla; otherwise it is perfect.

The specimen upon which Coues's provisional *O. longimembris* is based is designated by number.

**Perognathus spinatus magdalenæ** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XX, p. 21, February 23, 1907.

146102. Skin and skull. Adult female. Magdalena Island, Lower California, Mexico. November 25, 1905. Collected by E. W. Nelson and E. A. Goldman. Original number 18633.

Well-made skin in good condition; skull perfect, except for broken zygomata.

**Perognathus parvus magruderensis** Osgood. Biol. Survey coll.

North Amer. Fauna, No. 18, p. 38, September 20, 1900.

$\frac{26}{40} \frac{43}{33} \frac{1}{1}$ . Skin and skull. Adult male. Mount Magruder, Nevada. June 6, 1891. Collected by V. Bailey. Original number 2899

Well-made skin in good condition; skull perfect.

**Perognathus apache melanotis** Osgood. Biological Survey coll.

North Amer. Fauna, No. 18, p. 27, September 20, 1900.

97416. Skin and skull. Adult female. Casas Grandes, Chihuahua, Mexico. May 21, 1899. Collected by E. A. Goldman. Original number 13750.

Well-made skin in good condition; skull perfect except for slight perforation in right audital bulla.

**Perognathus flavus mexicanus** Merriam. Biological Survey coll.

Proc. Acad. Nat. Sci. Phila., 1894, pp. 265-266, fig. 5, September 27, 1894.

50714. Skin and skull. Young adult male. Tlalpam, Federal District, Mexico. December 4, 1892. Collected by E. W. Nelson. Original number 3978.

Well-made skin in good condition; skull perfect.

**Perognathus monticola** Baird.

Mammals of North America, p. 422, 1857.

= *Perognathus parvus* (Peale). See Osgood, North Amer. Fauna, No. 18, p. 34, September 20, 1900.

$\frac{4.51}{1.5875}$ . Mounted skin and skull. Adult female. "W. of Rocky Mts." (Mus. Cat.) 1853. Collected by Dr. George Suckley. Catalogued January 31, 1855. In regard to the locality, the following is quoted from Osgood, *op. cit.*, p. 36: "It is also not improbable that the type of Baird's '*monticola*' was also taken at The Dalles [Oregon]. Baird's queried statement that it came from St. Mary's Mission, Mont., is rendered much more doubtful by the unsuccessful efforts of recent collectors to obtain additional specimens from that locality. Dr. Suckley, who collected this type, stopped for some time at The Dalles and may have obtained it there."

The skin is badly mounted and in poor condition. It is much bleached and the ears are more or less broken, and on the posterior parts of body are two large areas without hair. The skull is in better condition, but upper incisors are broken off to the alveoli; the posterior parts of the zygomata, left audital bulla, and parts about the foramen magnum are broken; lower jaw almost perfect.

Baird had but one specimen, designated by number.

**Perognathus (Chætodipus) nelsoni** Merriam. Biological Survey coll.

Proc. Acad. Nat. Sci. Phila., 1894, p. 266, fig. 6, September 27, 1894.

50214. Skin and skull. Old female. Hacienda La Parada, San Luis Potosi, Mexico. August 19, 1892. Collected by E. W. Nelson. Original number 3207.

Well-made skin in good condition; skull perfect.

**Perognathus nevadensis** Merriam. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1894, p. 264, fig. 3, September 27, 1894.

54828. Skin and skull. Adult male. Halleck, Nevada. July 4, 1893. Collected by V. Bailey. Original number 4070.

Well-made skin in good condition; skull perfect.

**Perognathus californicus ochrus** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, p. 128, June 9, 1904.

130348. Skin and skull. Young adult female. Santiago Springs, 16 miles southwest of McKittrick, Kern County, California. July 30, 1903. Collected by L. J. Goldman. Original number 728.

Well-made skin in good condition; skull perfect, except for broken zygomata.

**Perognathus pacificus** Mearns.

Bull. Amer. Mus. Nat. Hist., X, p. 299, August 31, 1898.

61022. Skin and skull. Adult female. Edge of Pacific Ocean, at the last Mexican boundary monument, No. 258, San Diego County, California. July 12, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3787. International Boundary Commission. Catalogued November 17, 1894.

Well-made skin in good condition; skull perfect.

**Perognathus fallax pallidus** Mearns.

Proc. Biol. Soc. Wash., XIV, p. 135, August 9, 1901.

61007. Skin and skull. Adult female. Mountain Spring, halfway up the east slope of the Coast Range Mountains near the Mexican boundary line, in San Diego County, California. May 16, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3520. International Boundary Commission: Catalogued November 17, 1894.

Well-made skin in good condition; skull perfect, except angular processes of mandible slightly chipped.

**Perognathus longimembris panamintinus** Merriam.

Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1894, p. 265, fig. 4, September 27, 1894.

=**Perognathus panamintinus** (Merriam). See Osgood, North Amer. Fauna, No. 18, p. 28, September 20, 1900.

$\frac{2}{3} \frac{11}{8} \frac{6}{8} \frac{7}{7}$ . Skin and skull. Young adult male. Perognathus Flat, Emigrant Gap, Panamint Mountains, California. April 16, 1891. Collected by V. Bailey. Original number 2675.

Well-made skin in good condition; skull perfect.

**Cricetodipus parvus** Peale. See page 289.**Perognathus penecillatus** Woodhouse.

Proc. Acad. Nat. Sci. Phila., VI, p. 200. Presented at meeting of December 28, 1852.

=**Perognathus penicillatus** Woodhouse. See Woodhouse, Rep. Exped. Zuni and Colorado Rivers, by Capt. L. Sitgreaves, p. 49, pl. 3, 1853.

$\frac{2}{3} \frac{6}{7} \frac{7}{4} \frac{6}{3} \frac{7}{7}$ . Skin and skull. Adult male. San Francisco Mountain, Arizona. (Probably a few miles to the northeast. See Osgood, North Amer. Fauna, No. 18, p. 45, footnote, September 20, 1900.) 1851. Collected by Dr. S. W. Woodhouse on an expedition in command of Capt. L. Sitgreaves, U. S. A. Skin catalogued April 10, 1857; skull, June 4, 1898.

Skin formerly mounted, fairly well made up, but badly preserved. The hair looks worn and bleached and there are a couple of bare spots on the specimen. The tail has never been skinned out. Skull in fair condition; both zygomata are injured, especially the left, and there are more or less extensive openings in the orbital walls. Lower jaw perfect, except some chipping from the angular processes.

Type not designated by number. The original description speaks of a single specimen, a male, from San Francisco Mountain, and by referring to Baird's Mammals of North America, p. 419, No. 2676 is seen to be this specimen. It should be observed that the measurements given by Baird do not agree well with those given by Dr. Woodhouse.

**Perognathus flavescens perniger** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, p. 127-128, June 9, 1904.

57725. Skin and skull. Young female. Vermilion, South Dakota. August 22, 1889. Collected by G. S. Agersborg.

Skin in fair condition; abdominal incision not sewed up; skull perfect, except for broken zygomata.

**Perognathus pernix rostratus** Osgood. Biological Survey collection.

North Amer. Fauna, No. 18, p. 51, pl. 1, fig. 8, September 20, 1900.

95818. Skin and skull. Young adult male. Camoa, Rio Mayo, Sonora, Mexico. October 28, 1898. Collected by E. A. Goldman. Original number 13167.

Well-made skin in good condition; skull perfect.

**Perognathus penicillatus siccus** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XX, p. 20, February 23, 1907.

146890. Skin and skull. Adult male. Ceralbo Island, Lower California, Mexico. February 13, 1906. Collected by E. W. Nelson and E. A. Goldman. Original number 19131.

Well-made skin in good condition; skull perfect.

**Perognathus (Chætodipus) stephensi** Merriam. Biol. Survey coll.

Proc. Acad. Nat. Sci. Phila., 1894, p. 267, fig. 7, September 27, 1894.

33374. Skin and skull. Adult male. Mesquite Valley, northwest arm of Death Valley, California. April 6, 1891. Collected by F. Stephens. Original number 258.

Well-made skin in good condition; skull perfect.

**Perognathus hispidus zacatecæ** Osgood. Biological Survey coll.

North Amer. Fauna, No. 18, p. 45, September 20, 1900.

91877. Skin and skull. Young adult female. Valparaiso, Zacatecas, Mexico. December 16, 1897. Collected by E. A. Goldman. Original number 11968.

Well-made skin in good condition; skull perfect.

#### Genus MICRODIPODOPS.

**Microdipodops californicus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 128, July 19, 1901.

101227. Skin and skull. Young adult male. Sierra Valley, near Vinton, Plumas County, California. August 7, 1900. Collected by Dr. W. K. Fisher. Original number 1596.

Well-made skin in good condition; skull perfect, except for slight injury to lower lip of foramen magnum.



**Microdipodops megacephalus Merriam.** Biological Survey coll.  
North Amer. Fauna, No. 5, pp. 116-117, July 30, 1891.

$\frac{2}{3} \frac{1}{3} \frac{1}{3} \frac{1}{3}$ . Skin and skull. Adult male. Halleck, Elko County, Nevada.  
October 23, 1890. Collected by V. Bailey. Original number 2005.

Well-made skin in good condition; skull perfect except for a few perforations in right mastoid bulla and broken left zygoma.

**Microdipodops megacephalus oregonus Merriam.** Biol. Survey coll.  
Proc. Biol. Soc. Wash., XIV, p. 127, July 19, 1901.

80128. Skin and skull. Young adult male. Lake Alvord, Oregon.  
August 18, 1896. Collected by C. P. Streater. Original number 5430.

Well-made skin in good condition; skull perfect.

**Microdipodops pallidus Merriam.** Biological Survey collection.  
Proc. Biol. Soc. Wash., XIV, pp. 127-128, July 19, 1901.

93520. Skin and skull. Adult female. Ten miles east of Stillwater,  
Nevada. May 11, 1898. Collected by H. C. Oberholser. Original  
number 101.

Well-made skin in good condition; skull perfect.

#### Genus DIPODOMYS.

**Dipodomys ambiguus Merriam.** Biological Survey collection.  
North. Amer. Fauna, No. 4, pp. 42-45, October 8, 1890.

=*Dipodomys merriami ambiguus* (Merriam). See Merriam, Science, new ser.,  
VII, p. 31, January 7, 1898.

$\frac{1}{2} \frac{1}{2} \frac{1}{4} \frac{1}{6}$ . Skin and skull. Adult male. El Paso, Texas. December 13,  
1889. Collected by V. Bailey. Original number 782.

Well-made skin in good condition; skull perfect.

**Dipodomys merriami atronasus Merriam.** Biological Survey coll.  
Proc. Biol. Soc. Wash., IX, p. 113, June 21, 1894.

50276. Skin and skull. Adult male. Hacienda La Parada, San Luis  
Potosi, Mexico. August 20, 1892. Collected by E. W. Nelson.  
Original number 3229.

Well-made skin in good condition; skull lacking right audital bulla, basi-  
occipital, and adjacent parts of brain case; zygomata broken.

**Dipodomys californicus Merriam.** Biological Survey collection.  
North Amer. Fauna, No. 4, p. 49, October 8, 1890.

$\frac{1}{2} \frac{1}{2} \frac{1}{4} \frac{1}{4}$ . Skin and skull. Adult male. Ukiah, California. May 4,  
1889. Collected by Dr. T. S. Palmer. Original number 46.

Well-made skin in good condition; skull perfect.

**Dipodomys compactus** True.

Proc. U. S. Nat. Mus., XI, No. 559, p. 160, January 5, 1889.

$\frac{15}{12} \frac{6}{2} \frac{6}{2} \frac{5}{2} \frac{5}{2}$ . Skin only (skull lost). Adult female. Padre Island, Texas. April 3, 1888. Purchased from C. K. Worthen. Catalogued August 13, 1891.

Skin rather carelessly made up. Some epidermis has slipped from about the nose. A sewed-up cut along the throat looks as if the specimen had been made up with a skull inside and that the latter had afterwards been removed. This skull can not be found at present.

Type not designated. The description was based upon one specimen only. The data, including three measurements of the above specimen, agree in every respect with those given in the original description.

**Dipodomys spectabilis cratodon** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XX, p. 75, July 22, 1907.

78953. Skin and skull. Adult male. Chicalote, Aguas Calientes, Mexico. July 2, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9734.

Well-made skin in good condition; skull perfect.

**Dipodomys deserti** Stephens.

Amer. Nat., XXI, p. 42, pl. 5, January, 1887.

$\frac{15}{12} \frac{6}{2} \frac{6}{2} \frac{2}{2} \frac{2}{2}$ . Skin and skull. Adult female. Mohave River, California. June 29, 1886. Collected by F. Stephens. Original number 314. Catalogued December 29, 1886.

Well-made skin in good condition; skull perfect.

Type designated by the original number.

**Dipodomys elator** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, pp. 109-110, June 21, 1894.

64802. Skin and skull. Adult male. Henrietta, Texas. April 13, 1894. Collected by J. A. Loring. Original number 1804.

Well-made skin in good condition; skull perfect.

**Dipodomys merriami exilis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, p. 113, June 21, 1894.

$\frac{3}{4} \frac{4}{3} \frac{4}{3} \frac{4}{3}$ . Skin and skull. Young adult male. Fresno, California. September 23, 1891. Collected by V. Bailey. Original number 3277.

Well-made skin in good condition; skull perfect.

**Dipodomys insularis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 77, July 22, 1907.

79053. Skin and skull. Adult female. San Jose Island, Lower California, Mexico. August 6, 1895. Collected by J. E. McLellan. Original number 1457.

Well-made skin in good condition; skull perfect, except broken tips of nasals.

**Dipodomys merriami kernensis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XX, pp. 77-78, July 22, 1907.

108884. Skin and skull. Adult male. Onyx, west end of Walker Pass, Kern County, California. July 25, 1901. Collected by Dr. W. K. Fisher. Original number 2106.

Well-made skin in good condition, except for a small bare spot in middle of back; skull perfect.

**Dipodomys margaritæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 76-77, July 22, 1907.

146058. Skin and skull. Young adult male. Margarita Island, Lower California, Mexico. December 1, 1905. Collected by E. W. Nelson and E. A. Goldman. Original number 18711.

Well-made skin in good condition; skull perfect.

**Dipodomys mitchelli** Mearns.

Proc. U. S. Nat. Mus., XIX, No. 1121, p. 719, July 30, 1897.

63188. Skin and skull. Adult female. Tiburon Island, Gulf of California. December 23, 1895. Collected by J. W. Mitchell. Original number 3. Catalogued March 16, 1896.

Well-made skin in good condition; tail has never been skinned out, but is braced with wire. Skull lacks both malars; part of the left bulla is broken in two. Angular, coronoid, and condyloid processes of mandible more or less broken.

**Dipodomys nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 75-76, July 22, 1907.

79439. Skin and skull. Adult male. La Ventura, Coahuila, Mexico. August 10, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9998.

Well-made skin in good condition; skull perfect.

**Dipodomys merriami nevadensis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., IX, pp. 111-112, June 21, 1894.

54552. Skin and skull. Adult female. Pyramid Lake, Nevada. June 26, 1893. Collected by V. Bailey. Original number 3990.

Well-made skin in good condition; skull perfect.

**Dipodomys merriami nitratoides** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., IX, pp. 112-113, June 21, 1894.

54674. Skin and skull. Adult male. Tipton, Tulare County, California. June 25, 1893. Collected by C. P. Streater. Original number 2978.

Well-made skin in good condition; skull perfect, except for absence of last two upper molars and broken right mastoid bulla.

**Dipodomys merriami nitratus** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., IX, p. 112, June 21, 1894.

$\frac{55}{32} \frac{35}{17} \frac{52}{22}$ . Skin and skull. Adult male. Keeler, Inyo County, California. December 29, 1890. Collected by E. W. Nelson. Original number 160.

Well-made skin in good condition; skull perfect.

**Dipodomys ornatus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, pp. 110-111, June 21, 1894.

57990. Skin and skull. Adult female. Berriozabal, Zacatecas, Mexico. December 29, 1893. Collected by E. A. Goldman. Original number 5613.

Well-made skin in good condition; skull perfect, except for fractures of mastoid bullæ and left audital bulla and absence of last left lower molar.

**Dipodomys perotensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, p. 111, June 21, 1894.

54285. Skin and skull. Adult female. Perote, Vera Cruz, Mexico. May 21, 1893. Collected by E. W. Nelson. Original number 4840.

Well-made skin in good condition; skull with right zygoma and lachrymal shelf missing; right mastoid bulla and left audital bulla slightly broken.

**Dipodomys platycephalus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 76, July 22, 1907.

139882. Skin and skull. Adult male. Calmali, Lower California, Mexico. October 1, 1905. Collected by E. W. Nelson and E. A. Goldman. Original number 18248.

Well-made skin in good condition; skull perfect, except for broken angular processes of mandible.

**Dipodomys spectabilis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, pp. 46-48, October 8, 1890.

$\frac{57}{34} \frac{38}{19} \frac{56}{22}$ . Skin and skull. Adult male. Dos Cabezos, Cochise County, Arizona. November 22, 1889. Collected by V. Bailey. Original number 695.

Well-made skin in good condition; skull perfect.

## Genus PERODIPUS.

**Perodipus cabezonæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 144-145, July 14, 1904.

54055. Skin and skull. Adult female. Cabezon, Colorado Desert, California. May 31, 1893. Collected by C. P. Streater. Original number 2859.

Well-made skin in good condition; skull perfect, except for slight perforation of right audital bulla.

**Perodipus ordi columbianus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., p. 115, June 21, 1894.

$\frac{341}{31} \frac{83}{89} \frac{1}{4}$ . Skin and skull. Adult female. Umatilla, Oregon. October 18, 1890. Collected by C. P. Streater. Original number 386.

Well-made skin in good condition; skull perfect.

**Perodipus goldmani** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 143, July 14, 1904.

118924. Skin and skull. Adult male. Salinas, Monterey County, California. September 4, 1902. Collected by L. J. Goldman. Original number 431.

Well-made skin in good condition; skull perfect, except for broken right audital bulla.

**Perodipus ingens** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 141-142, July 14, 1904.

128805. Skin and skull. Adult male. Painted Rock, 20 miles south-east of Simmler, Carrizo Plain, San Luis Obispo County, California. August 6, 1903. Collected by L. J. Goldman. Original number 777.

Well-made skin in good condition; skull perfect.

**Perodipus microps levipes** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 145, July 14, 1904.

$\frac{347}{34} \frac{117}{57} \frac{6}{6}$ . Skin and skull. Adult male. Perognathus Flat, Emigrant Gap, Panamint Mountains, California. April 16, 1891. Collected by V. Bailey. Original number 2668.

Well-made skin in good condition; skull perfect.

**Dipodops longipes** Merriam. Biological Survey collection.

North Amer. Fauna, No. 3, pp. 71-73, September 4, 1890.

= *Perodipus longipes* (Merriam). See Allen, Abstract Proc. Linn. Soc. N. Y., 1893-94, p. 29, July 20, 1894.

$\frac{177}{24} \frac{93}{83} \frac{3}{3}$ . Skin and skull. Young adult male. Echo Cliffs, Painted Desert, Arizona. September 22, 1889. Collected by Dr. C. Hart Merriam. Original number 512.

Well-made skin in good condition; skull perfect, except for absence of basioccipital and supraoccipital; mastoid bullae fractured.

**Perodipus microps** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 145, July 14, 1904.

$\frac{355}{33} \frac{88}{70} \frac{1}{1}$ . Skin and skull. Adult male. Lone Pine, Owens Valley, Inyo County, California. December 22, 1890. Collected by E. W. Nelson. Original number 138.

Well-made skin in good condition; skull perfect, except for slight break in right mastoid bulla.

**Dipodomys montanus Baird.**

Proc. Acad. Nat. Sci. Phila., VII, p. 334, this paper reported favorably for publication, April 24, 1855.

= *Perodipus montanus* (Baird). See Merriam, Proc. Biol. Soc. Wash., XVII, pp. 140-141, July 14, 1904.

$\frac{4}{1} \frac{2}{3} \frac{3}{7}$ . Skin and skull. Collected on Pacific Railroad Survey, near  $38^{\circ}$  lat., under Lieut. E. G. Beckwith, U. S. A., by Mr. Kretzfeld in 1853. It was taken in the Rio Grande Valley, near Fort Massachusetts, then in New Mexico, at lat.  $37^{\circ} 32'$ , long.  $105^{\circ} 23'$ , now near the present town of Garland, Costilla County, Colorado. Catalogued February 16, 1855.

Skin badly made up, but well-preserved; skull with most of the posterior portions of the brain-case broken away; angular processes of mandible chipped.

Type not designated by number in the original description, but in Baird's Mammals of North America, page 412, a footnote speaks of No. 490 as the type.

**Perodipus morroensis Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 78-79, July 22, 1907.

$\frac{3}{1} \frac{1}{1} \frac{2}{3} \frac{3}{3}$ . Skin and skull. Adult female. Morro, San Luis Obispo County, California. November 11, 1891. Collected by E. W. Nelson. Original number 1464.

Well-made skin in good condition; skull perfect.

**Perodipus panamintinus Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., IX, p. 114, June 21, 1894.

$\frac{2}{2} \frac{2}{2} \frac{2}{2} \frac{2}{2}$ . Skin and skull. Adult male. Head of Willow Creek, Panamint Mountains, California. May 12, 1891. Collected by E. W. Nelson. Original number 853.

Well-made skin in good condition; skull perfect.

**Perodipus simulans peninsularis Merriam.** Biological Survey coll.

Proc. Biol. Soc. Wash., XX, p. 79, July 22, 1907.

139872. Skin and skull. Young adult male. Santo Domingo, Lower California, Mexico. September 27, 1905. Collected by E. W. Nelson and E. A. Goldman. Original number 18215.

Well-made skin in good condition; skull perfect, except for absence of lacrymals.

**Perodipus perplexus Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XX, p. 79, July 22, 1907.

$\frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1}$ . Skin and skull. Adult male. Walker Basin, Kern County, California. July 15, 1891. Collected by V. Bailey. Original number 3053.

Well-made skin in good condition; skull perfect, except broken lower incisors and slight injuries to palate and basioccipital.

**Perodipus streator simulans Merriam.** Biological Survey coll.

Proc. Biol. Soc. Wash., p. 144, July 14, 1904.

$\frac{33105}{3105}$ . Skin and skull. Adult female. Duizura, San Diego County, California. November 24, 1891. Collected by C. H. Marsh. Original number 255.

Well-made skin in good condition; skull perfect, except for broken right audital bulla and supraoccipital.

**Perodipus streator Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., IX, pp. 113-114, June 21, 1894.

64310. Skin and skull. Adult female. Carbondale, Amador County, California. April 3, 1894. Collected by C. P. Streater. Original number 3673.

Well-made skin in good condition; skull perfect, except for slightly broken right mastoid bulla.

**Perodipus agilis tularensis Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 143, July 14, 1904.

127158. Skin and skull. Adult female. Alila, Tulare County, California. June 23, 1903. Collected by L. J. Goldman. Original number 563.

Well-made skin in good condition; skull perfect, except for absence of lachrymals.

**Perodipus montanus utahensis Merriam.** Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 143-144, July 14, 1904.

55115. Skin and skull. Adult male. Ogden, Utah. July 15, 1893. Collected by V. Bailey. Original number 4085.

Well-made skin in good condition; skull perfect.

**Perodipus venustus Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 142, July 14, 1904.

51852. Skin and skull. Adult male. Santa Cruz, California. March 12, 1893. Collected by G. B. Badger. Original number 46.

Well-made skin in good condition; skull perfect, except for slightly injured palate and pterygoid, and absence of right lachrymal.

## Family GEOMYID.E.

## Genus THOMOMYS.

**Thomomys talpoides agrestis Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XXI, p. 144, June 9, 1908.

150725. Skin and skull. Adult female. Medano Ranch, San Luis Valley, Colorado. October 29, 1907. Collected by M. Cary. Original number 1205.

Well-made skin in good condition; skull perfect.

**Thomomys alpinus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 216, July 15, 1897.

$\frac{3}{2}$   $\frac{2}{2}$   $\frac{2}{1}$   $\frac{2}{2}$ . Skin and skull. Adult male. Big Cottonwood Meadows, near Mount Whitney, California. Altitude 10,000 feet. August 6, 1891. Collected by Dr. B. H. Dutcher, U. S. A. Original number 167.

Well-made skin in good condition; skull perfect, except for a perforation in the supraoccipital.

**Thomomys angularis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 214, July 15, 1897.

58123. Skin and skull. Adult male. Los Banos, Merced County, California. January 1, 1894. Collected by J. E. McLellan. Original number 418.

Well-made skin in good condition; skull perfect.

**Thomomys alpinus awahnee** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XXI, pp. 146-147, June 9, 1908.

133076. Skin and skull. Adult female. Yosemite Valley, California. June 14, 1904. Collected by N. Hollister. Original number 870.

Well-made skin in good condition; skull perfect, except for absence of last left upper molar.

**Thomomys baileyi** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 109, July 19, 1901.

$\frac{1}{2}$   $\frac{2}{2}$   $\frac{1}{1}$   $\frac{1}{2}$ . Skin and skull. Adult female. Sierra Blanca, Texas. December 28, 1889. Collected by V. Bailey. Original number 870.

Well-made skin in good condition; skull perfect.

**Thomomys bridgeri** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, pp. 113-114, July 19, 1901.

$\frac{1}{2}$   $\frac{2}{2}$   $\frac{1}{1}$   $\frac{1}{2}$ . Skin and skull. Adult male. Fort Bridger, Wyoming. May 27, 1890. Collected by V. Bailey. Original number 1207.

Well-made skin in good condition; skull perfect.

**Thomomys cabezonæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 110, July 19, 1901.

53987. Skin and skull. Adult male. Cabezon, San Gorgonio Pass, California. June 3, 1893. Collected by C. P. Streater. Original number 2906.

Well-made skin in good condition; skull perfect.

**Thomomys clusius** Coues.

Proc. Acad. Nat. Sci. Phila., 1875, p. 138, June 15, 1875.

$\frac{3}{2}$   $\frac{2}{2}$   $\frac{1}{1}$   $\frac{1}{2}$ . Skin and skull. Adult female. Bridger Pass, Sweetwater County, Wyoming. July 28, 1857. Collected by Dr. W. A. Ham-



mond, U. S. A. Original number 88. "Wagon Road to Bridger's Pass, Rocky Mountain," Lieut. F. T. Bryan, U. S. A. Skin catalogued October 6, 1857; skull, January 5, 1894.

Well-made skin in good condition. It has evidently been recently made over and the skull removed, probably in 1894. The skull has the posterior and basal portions of the cranium broken away; the left malar is missing and the upper incisors broken off to the alveoli. Both coronoid processes of mandible and the left angular process broken.

**Thomomys fuscus fisheri** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, pp. 111-112, July 19, 1901.

101238. Skin and skull. Young adult male. Beckwith, Sierra Valley, Plumas County, California. August 3, 1900. Collected by Dr. W. K. Fisher. Original number 1547.

Well-made skin in good condition; skull perfect, except for absence of left jugal.

**Geomys fulvus** Woodhouse.

Proc. Acad. Nat. Sci. Phila., VI, p. 201. Presented at meeting of December 28, 1852.

= **Thomomys fulvus** (Woodhouse). See Baird, Mammals of North America, p. 402, 1857.

2674. Mounted skin with no skull. San Francisco Mountain, Arizona. 1851. Collected by Dr. S. W. Woodhouse on expedition under command of Capt. L. Sitgreaves, U. S. A. Catalogued May, 1857.

Specimen in good shape and condition, especially considering its age and the time when it was mounted. It is probably much faded.

Type not designated by number. Woodhouse speaks of but one specimen, giving close measurements, and reference to Baird's Mammals of North America shows the above specimen to be the basis of the description.

**Thomomys clusius fuscus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 5, pp. 69-70, July 30, 1891.

31267. Skin and skull. Adult female. Head of Big Lost River, Idaho. September 23, 1890. Collected by Dr. B. H. Dutcher, U. S. A. Original number 1847.

Well-made skin in good condition; skull perfect, except for badly broken zygomata.

**Thomomys goldmani** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, pp. 108-109, July 19, 1901.

58075. Skin and skull. Adult male. Mapimi, Durango, Mexico. December 15, 1893. Collected by E. A. Goldman. Original number 240.

Well-made skin in good condition; skull perfect.

**Thomomys hesperus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 116, July 19, 1901.

69825. Skin and skull. Adult female. Tillamook, Oregon. November 9, 1894. Collected by J. E. McLellan. Original number 1189.

Well-made skin in good condition; skull perfect, except for absence of left upper premolar.

**Thomomys idahoensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 114, July 19, 1901.

$\frac{2}{3} \frac{143}{090} \frac{2}{7}$ . Skin and skull. Adult male. Birch Creek, Idaho. August 8, 1890. Collected by C. P. Streater. Original number 129.

Well-made skin in good condition; skull perfect.

**Thomomys fulvus intermedius** Mearns.

Proc. U. S. Nat. Mus., XIX, No. 1121, p. 719, July 30, 1897.

$\frac{2}{3} \frac{143}{090} \frac{2}{7}$ . Skin and skull. Adult male. Aspen and spruce zone at the summit of the Huachuca Mountains, Arizona. Altitude 9,000 feet. September 6, 1893. Collected by F. X. Holzner. International Boundary Commission. Original number 1013. Catalogued November 2, 1893.

Well-made skin in good condition; skull lacking most of the left zygoma, otherwise perfect.

**Thomomys aureus lachuguilla** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 120, June 2, 1902.

110336. Skin and skull. Adult male. Foothills near El Paso, Texas. September 24, 1901. Collected by V. Bailey. Original number 7858.

Well-made skin in good condition; skull perfect.

**Thomomys laticeps** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 335, this paper was reported favorably for publication April 24, 1855.

$\frac{5}{1} \frac{13}{84} \frac{2}{8}$ . Skin and skull. Humboldt Bay, California. Collected by Lieut. W. P. Trowbridge, U. S. A. Catalogued February 21, 1855.

Badly made skin in rather poor condition; legs sprawling, tail not skinned out. A naked patch on left side. It has the appearance of once having been in alcohol. Skull much damaged, but lower jaw almost perfect. Rostral and tooth-bearing portions above complete, but the teeth on right side are all broken off. Fragments of cranial bones present and adherent to dried-up brain.

Type not designated by number in the original description, but in Mammals of North America it is seen that Baird had but one specimen referred to by number.

- Thomomys latirostris** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XIV, p. 107, July 19, 1901.
- $\frac{18003}{4814}$ . Skin and skull. Adult male. Little Colorado River, Painted Desert, Arizona. September 22, 1899. Collected by V. Bailey. Original number 504.  
Well-made skin in good condition; skull perfect.
- Thomomys leucodon** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XI, p. 215, July 15, 1897.
- $\frac{32034}{43848}$ . Skin and skull. Adult male. Grants Pass, Rogue River Valley, Oregon. December 17, 1891. Collected by C. P. Streater. Original number 1394.  
Well-made skin in good condition; skull perfect.
- Thomomys limosus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XIV, p. 116, July 19, 1901.
89724. Skin and skull. Adult male. White Salmon, gorge of the Columbia River, Washington. June 26, 1897. Collected by J. A. Loring. Original number 4382.  
Well-made skin with hairs of underparts somewhat matted and soiled; tip of tail slightly injured; skull perfect.
- Thomomys mazama** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XI, p. 214, July 15, 1897.
80502. Skin and skull. Adult male. Anna Creek, Crater Lake, Mount Mazama, Oregon. September 3, 1896. Collected by E. A. Preble. Original number 1485.  
Well-made skin in good condition; skull perfect.
- Thomomys melanops** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XIII, p. 21, January 31, 1899.
90630. Skin and skull. Adult female. Timber line at head of Sole-duck River, Olympic Mountains, Washington. August 28, 1897. Collected by V. Bailey. Original number 6219.  
Well-made skin in good condition; skull perfect.
- Thomomys mewa** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XXI, p. 146, June 9, 1908.
133183. Skin and skull. Adult male. Raymond, Madera County, California. June 28, 1904. Collected by N. Hollister. Original number 908.  
Well-made skin in good condition; skull perfect.

**Thomomys myops** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 112, July 19, 1901.

91066. Skin and skull. Adult female. Conconully, east base Cascade Mountains, Washington. September 11, 1897. Collected by J. A. Loring. Original number 4650.

Well-made skin in good condition; skull perfect.

**Thomomys nasicus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 216, July 15, 1897.

79815. Skin and skull. Adult male. Farewell Bend, Des Chutes River, Oregon. August 4, 1896. Collected by E. A. Preble. Original number 1274.

Well-made skin in good condition; skull perfect.

**Thomomys leucodon navus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 112, July 19, 1901.

57791. Skin and skull. Adult male. Red Bluff, California. December 26, 1893. Collected by C. P. Streater. Original number 3462.

Well-made skin in good condition; skull perfect, except for absence of two upper and one lower cheek teeth.

**Thomomys nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, pp. 109-110, July 19, 1901.

96451. Skin and skull. Adult female. Parral, Chihuahua, Mexico. September 18, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 13035.

Well-made skin in good condition; skull perfect.

**Thomomys nevadensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 213, July 15, 1897.

$\frac{2}{3} \frac{5}{4} \frac{9}{1} \frac{1}{3}$ . Skin and skull. Young adult male. Austin, Nevada. November 11, 1890. Collected by V. Bailey. Original number 2097.

Well-made skin in good condition; skull perfect.

**Thomomys niger** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 117, July 19, 1901.

69407. Skin and skull. Adult male. Seaton, Oregon. October 6, 1894. Collected by J. E. McLellan. Original number 1147.

Well-made skin in good condition; skull perfect, except for broken basi-occipital and left audital bulla.

**Thomomys clusius ocus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 114, July 19, 1901.

$\frac{1}{2} \frac{3}{3} \frac{3}{3} \frac{2}{2}$ . Skin and skull. Adult male. Fort Bridger, Wyoming. May 24, 1890. Collected by V. Bailey. Original number 1194.

Well-made skin in good condition; skull perfect.

- Thomomys operarius** Merriam. Biological Survey collection.  
 Proc. Biol. Soc. Wash., XI, pp. 215-216, July 15, 1897.  
 $\frac{3}{2} \frac{5.9}{4} \frac{5.4}{6}$ . Skin and skull. Adult male. Keeler, Inyo County, California. November 29, 1890. Collected by E. W. Nelson. Original number 1.  
 Well-made skin in good condition; skull perfect, except for broken crown of last left lower molar.
- Thomomys douglasi oregonus** Merriam. Biological Survey coll.  
 Proc. Biol. Soc. Wash., XIV, p. 115, July 19, 1901.  
 56939. Skin and skull. Adult male. Oregon City, Oregon. October 24, 1893. Collected by C. P. Streater. Original number 3340.  
 Well-made skin in good condition; skull perfect.
- Thomomys orizabæ** Merriam. Biological Survey collection.  
 Proc. Biol. Soc. Wash., VIII, p. 145, December 29, 1893.  
 53616. Skin and skull. Adult female. Mount Orizaba, Puebla, Mexico. Altitude 9,500 feet. April 25, 1893. Collected by E. W. Nelson. Original number 4744.  
 Well-made skin in good condition; skull perfect.
- Thomomys angularis pascalis** Merriam. Biological Survey coll.  
 Proc. Biol. Soc. Wash., XIV, p. 111, July 19, 1901.  
 $\frac{3}{4} \frac{4.7}{7} \frac{1.9}{3}$ . Skin and skull. Adult male. Fresno, California. March 4, 1892 (not May 4, 1892, as in original description). Collected by C. P. Streater. Original number 1634.  
 Well-made skin in good condition; skull perfect.
- Thomomys perditus** Merriam. Biological Survey collection.  
 Proc. Biol. Soc. Wash., XIV, p. 108, July 19, 1901.  
 $\frac{3}{2} \frac{5.6}{3} \frac{5.5}{3}$ . Skin and skull. Adult male. Lampazos, Nuevo Leon, Mexico. January 22, 1891. Collected by C. P. Streater. Original number 512.  
 Well-made skin in good condition; skull perfect, except for broken right lower incisor.
- Thomomys peregrinus** Merriam. Biological Survey collection.  
 Proc. Biol. Soc. Wash., VIII, p. 146, December 29, 1893.  
 50130. Skin and skull. Young adult female. Salazar, Mexico, Mexico. October 24, 1892 (not October 23, 1892, as in original description). Collected by E. W. Nelson. Original number 3668.  
 Well-made skin in good condition; skull perfect.
- Thomomys aureus perpes** Merriam. Biological Survey collection.  
 Proc. Biol. Soc. Wash., XIV, p. 111, July 19, 1901.  
 $\frac{3}{2} \frac{5.9}{5} \frac{5.1}{3}$ . Skin and skull. Adult male. Lone Pine, Owens Valley, California. December 23, 1890. Collected by E. W. Nelson. Original number 145.  
 Well-made skin in good condition; skull perfect.

**Thomomys aureus pervagus** Merriam. Biological Survey coll.  
Proc. Biol. Soc. Wash., XIV, pp. 110-111, July 19, 1901.

58293. Skin and skull. Adult male. Espanola, New Mexico. January 4, 1894. Collected by J. A. Loring. Original number 1548.  
Well-made skin in good condition; skull perfect.

**Thomomys monticola pinetorum** Merriam. Biological Survey coll.  
North Amer. Fauna, No. 16, p. 97, October 28, 1899.

95152. Skin and skull. Adult male. Sisson, California. September 4, 1898. Collected by R. T. Fisher. Original number 173.  
Well-made skin in good condition; skull perfect, except for absence of right jugal and injury to left audital bulla.

**Thomomys pygmæus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XIV, p. 115, July 19, 1901.

55271. Skin and skull. Adult male. Montpelier Creek, Idaho. July 29, 1893. Collected by V. Bailey. Original number 4150.  
Well-made skin in good condition; skull perfect.

**Thomomys quadratus** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XI, pp. 214-215, July 15, 1897.

57134. Skin and skull. Adult male. The Dalles, Oregon. November 2, 1893. Collected by C. P. Streater. Original number 3359.  
Well-made skin in good condition; skull perfect.

**Thomomys sinaloæ** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XIV, p. 108, July 19, 1901.

96745. Skin and skull. Adult male. Altata, Sinaloa, Mexico. March 28, 1899. Collected by E. A. Goldman. Original number 13607.  
Well-made skin in good condition; skull perfect, except for absence of left upper molariform series.

**Thomomys fulvus texensis** Bailey. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, pp. 119-120, June 2, 1902.

$\frac{22511}{31408}$ . Skin and skull. Adult male. Head of Limpia Creek, Davis Mountains, Texas. Altitude 5,500 feet. January 7, 1890. Collected by V. Bailey. Original number 876.  
Well-made skin in good condition; skull perfect.

**Thomomys uinta** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XIV, pp. 112-113, July 19, 1901.

$\frac{22501}{30031}$ . Skin and skull. Adult male. Uinta Mountains, Utah. Altitude 10,000 feet. June 6, 1890. Collected by V. Bailey. Original number 1262.  
Well-made skin in good condition; skull perfect.

**Thomomys douglasi yelmensis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XIII, p. 21, January 31, 1899.

$\frac{31.9}{43.7} \frac{11.4}{17.7}$ . Skin and skull. Adult male. Tenino, Yelm Prairie, Washington. October 24, 1891. Collected by C. P. Streater. Original number 1385.

Well-made skin in good condition; skull perfect.

## Genus GEOMYS.

**Geomys arenarius** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 113, 139-141, pl. 9, fig. 1; pl. 13, fig. 13, January 31, 1895.

$\frac{18.8}{25.0} \frac{11.7}{17.5}$ . Skin and skull. Adult male. El Paso, Texas. December 14, 1889 (not December 13, 1889, as in original description). Collected by V. Bailey. Original number 798.

Well-made skin in good condition; skull perfect.

**Geomys breviceps attwateri** Merriam. Biological Survey coll.

North Amer. Fauna, No. 8, pp. 113, 135-137, pl. 9, fig. 3, January 31, 1895.

51382. Skin and skull. Adult male. Rockport, Texas. November 18, 1892. Collected by H. H. Keays. Original number 36.

Well-made skin in good condition; skull perfect.

**Geomys breviceps** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 335, reported favorably for publication April 24, 1855.

$\frac{15.6}{11.3} \frac{6}{8}$ . Skin and skull. Adult female. Prairie Mer Rouge, Louisiana. 1852. Collected by James Fairie. Skin catalogued May 19, 1853; skull May 25, 1853.

Skin well preserved. It has somewhat the appearance of having been in alcohol at one time; rather badly made up. Skull has a large triangular opening in brain case on the right side, involving basal and posterior parts. Mandible with left coronoid process broken and the right and left last lower molars lost.

Type not designated by number, but close measurements are given in the original description, which apply to No. 156 only, in the tables given in Baird's Mammals of North America, pages 379 and 380.

**Geomys personatus fallax** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 113, 144-145, pl. 12, fig. 3, January 31, 1895.

$\frac{32.0}{43.8} \frac{9.3}{14.4}$ . Skin and skull. Adult male. South side of Nueces Bay, Texas. November 30, 1891. Collected by W. Lloyd. Original number 949.

Well-made skin in good condition; skull perfect.

**Geomys breviceps llanensis** Bailey. Biological Survey collection.

North Amer. Fauna, No. 25, pp. 129-130, October 24, 1905.

97086. Skin and skull. Adult male. Llano, Texas. May 15, 1899. Collected by V. Bailey. Original number 6912.

Well-made skin in good condition; skull perfect.

**Geomys bursarius lutescens** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, p. 51, October 8, 1890.

= **Geomys lutescens** (Merriam). See Merriam, North Amer. Fauna, No. 8, p. 127, January 31, 1895.

$\frac{33}{44} \frac{67}{88}$ . Skin and skull. Adult male (not female, as in original description). Sandhills near Birdwood Creek, Lincoln County, Nebraska. May 27, 1889. Collected by A. B. Baker. Original number 11.

Well-made skin in good condition; skull perfect, except for absence of one upper molar.

**Geomys tuza mobilensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 113, 119-120, numerous pls. and figs., January 31, 1895.

$\frac{33}{44} \frac{68}{88}$ . Skin and skull. Adult male. Mobile Bay, Alabama. April 26, 1892. Collected by R. J. Thompson. Original number 50.

Well-made skin in good condition; skull perfect, except for absence of right upper and lower molariform series and last left lower molar.

**Geomys personatus** True. Cotypes.

Proc. U. S. Nat. Mus., XI, No. 699, p. 159, January 5, 1889.

$\frac{33}{44} \frac{67}{88}$ . Skin and skull. Adult male.

$\frac{33}{44} \frac{68}{88}$ . Skin and skull. Adult female.

Padre Island, Cameron County, Texas. April 11, 1888. Purchased from C. K. Worthen. Skins catalogued August 13, 1891; skulls February 21, 1902.

No type designated. Description based equally upon the above two specimens indicated by numbers. Well-made skins in good condition. They originally had skulls inside, which were taken out in February, 1902. Skulls in poor condition; the lower jaws are fairly good, but the rest of each skull is represented by the rostrum and tooth-bearing parts only.

**Geomys breviceps sagittalis** Merriam. Biological Survey coll.

North Amer. Fauna, No. 8, pp. 113, 134-135, pl. 9, fig. 4, January 31, 1895.

$\frac{33}{44} \frac{33}{44}$ . Skin and skull. Adult male. Clear Creek, Galveston Bay, Texas. March 28, 1892. Collected by W. Lloyd. Original number 1181.

Well-made skin in good condition; skull perfect, except for absence of one upper molar.

Genus PAPPOGEOMYS.

**Pappogeomys albinasus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 147, 149, January 31, 1895.

$\frac{33}{44} \frac{13}{15}$ . Skin and skull. Adult female. Atemajac, near Guadalajara, Jalisco, Mexico. May 21, 1892. Collected by E. W. Nelson. Original number 2654.

Well-made skin in good condition; skull perfect.



**Geomys nelsoni** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 164-165, September 29, 1892.

= **Pappogeomys bulleri** (Thomas). See Merriam, North Amer. Fauna, No. 8, p. 147, January 31, 1895.

$\frac{3}{4} \frac{2}{6} \frac{5}{8} \frac{2}{1}$ . Skin and skull. Old male. North slope Sierra Nevada de Colima, Jalisco, Mexico. April 11, 1892. Collected by E. W. Nelson. Original number 2436.

Well-made skin in good condition; skull perfect.

Genus **CRATOGEOMYS**.**Pseudostoma castanops** Baird.

Report Stansbury's Expedition to Great Salt Lake, p. 313, June, 1852.

= **Cratogeomys castanops** (Baird). See Merriam, North Amer. Fauna, No. 8, p. 159, January 31, 1895.

$\frac{4}{3} \frac{0}{8} \frac{0}{6} \frac{1}{1}$ . Skin and skull. "Collected by Lieutenant Abert along the prairie road to Bent's Fort," near the present town of Las Animas, Bent County, Colorado, on the Arkansas River. Catalogued June 18, 1860.

The specimen formerly mounted has been made over into a modern study skin, but it is bleached and is otherwise in very poor condition. Lower jaw perfect. All the posterior part of the brain-case is missing, also the left zygoma. A large fissure is at base of rostrum, and both upper incisors are broken off at the roots.

Type not designated by number, but Baird, in the Mammals of North America, page 385, says there was but one specimen collected by Lieutenant Abert at the above locality.

**Geomys clarkii** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 332, this paper was favorably reported for publication April 24, 1855.

= **Cratogeomys castanops** (Baird). See Merriam, North Amer. Fauna, No. 8, p. 159, January 31, 1895.

$\frac{1}{6} \frac{6}{2} \frac{4}{1}$ . Skin, skull, and parts of skeleton. Presidio del Norte, on the Rio Grande, Chihuahua, Mexico. Collected by J. H. Clark, United States and Mexican Boundary Survey, Maj. W. H. Emory, U. S. A., commissioner. Skin catalogued February 12, 1852; skull, February 15, 1855.

Skin was formerly mounted, but was made into a modern study skin August, 1898. It is not in first-class condition and appears much bleached. Skull is in better condition, but both nasals are gone; pterygoids are injured and the ascending parts of the right half of mandible are broken. Practically all of the skeleton is present, but some bones are in the feet of the skin.

Type not designated by number in the original description. By referring to Baird's Mammals of North America, page 381, it is seen but two specimens came from Presidio del Norte and one of them is a skull only, not mentioned in the first description. Moreover, the measurements of No. 6 are exactly those given in the original description.

**Cratogeomys estor** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 151, 155-156, pl. 8, figs. 4-5, January 31, 1895.

54308. Skin and skull. Adult male. Las Vigas, Vera Cruz, Mexico. June 12, 1893. Collected by E. W. Nelson. Original number 5005.

Well-made skin in good condition; skull perfect.

**Cratogeomys fulvescens** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 151, 161-162, pl. 12, fig. 2, January 31, 1895.

58168. Skin and skull. Adult male. Chalchicomula, Puebla, Mexico. January 15, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5651.

Well-made skin in good condition; skull perfect.

**Cratogeomys castanops goldmani** Merriam. Biological Survey coll.

North Amer. Fauna, No. 8, pp. 151, 160-161, January 31, 1895.

57965. Skin and skull. Young adult female. Cañitas, Zacatecas, Mexico. December 24, 1893. Collected by E. A. Goldman. Original number 286.

Well-made skin in good condition; skull perfect.

**Cratogeomys oreocetes** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 151, 156-157, pl. 8, figs. 1-2, January 31, 1895.

57963. Skin and skull. Young adult female. Mount Popocatepetl, Mexico. January 7, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5647.

Well-made skin in good condition; skull perfect, except for absence of left lower molar series.

**Cratogeomys peregrinus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 151, 158-159, pl. 8, fig. 3, January 31, 1895.

57964. Skin and skull. Old female. Mount Iztaccihuatl, Mexico. January 9, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5650.

Well-made skin in good condition; skull perfect, except for right lower molariform teeth, some of which are broken.

**Cratogeomys perotensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 151, 154-155, pl. 8, fig. 6, January 31, 1895.

54299. Skin and skull. Adult female. Cofre de Perote, Vera Cruz, Mexico. May 28, 1893. Collected by E. W. Nelson. Original number 4889.

Well-made skin in good condition; skull perfect, except for absence of crown of last left upper molar.

## Genus PLATYGEOMYS.

**Platygeomys tylorhinus angustirostris** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, pp. 81-82, May 29, 1903.

125688. Skin and skull. Adult female. Patamban, Michoacan, Mexico. February 2, 1903. Collected by E. W. Nelson and E. A. Goldman. Original number 15850.

Well-made skin in good condition; skull perfect.

**Geomys fumosus** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 165-166, September 29, 1892.

=*Platygeomys fumosus* (Merriam). See Merriam, North Amer. Fauna, No. 8, p. 170, January 31, 1895.

$\frac{3}{4} \frac{3^2}{2} \frac{0^2}{0} \frac{2}{1}$ . Skin and skull. Adult male. Colima, Colima, Mexico. March 27, 1892. Collected by E. W. Nelson. Original number 2338.

Well-made skin in good condition; skull perfect.

**Geomys gymnurus** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 166-167, September 29, 1892.

=*Platygeomys gymnurus* (Merriam). See Merriam, North Amer. Fauna, No. 8, p. 164, January 31, 1895.

$\frac{3}{4} \frac{3^5}{6} \frac{7^9}{2} \frac{1^9}{14}$ . Skin and skull. Adult female. Zapotlan, Jalisco, Mexico. April 16, 1892. Collected by E. W. Nelson. Original number 2460.

Well-made skin in good condition; skull perfect.

**Platygeomys neglectus** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 68-69, March 22, 1902.

81218. Skin and skull. Adult male. Cerro de la Calentura, near Pinal de Amoles, Queretaro, Mexico. September 14, 1896 (not September 4, as in original description). Collected by E. A. Goldman. Original number 10142.

Well-made skin in good condition; skull perfect.

**Platygeomys planiceps** Merriam.

Biological Survey collection.

North Amer. Fauna, No. 8, pp. 164, 168-170, pl. 13, fig. 3; pl. 14, fig. 9, January 31, 1895.

55906. Skin and skull. Adult male. North slope Volcan Toluca, Mexico. September 12, 1893. Collected by E. W. Nelson. Original number 5466.

Well-made skin in good condition; skull perfect except for absence of crown of left lower premolar, left coronoid process, and left condyle.

**Platygeomys tylorhinus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 164, 167-168, pl. 13, fig. 1, January 31, 1895.

51883. Skin and skull. Adult male. Tula, Hidalgo, Mexico. March 13, 1893. Collected by E. W. Nelson. Original number 4442.

Well-made skin in good condition; skull perfect, except broken tips of coronoids.

Genus ORTHOGEOMYS.

**Orthogeomys latifrons** Merriam.

North Amer. Fauna, No. 8, p. 178, pl. 11, figs. 5 and 6, text fig. 64, January 31, 1895.

61239. Skin and skull. Adult. Probably from Guatemala. From World's Columbian Exposition (Chicago, 1893), Exhibit of Guatemala, No. 2. Catalogued November 19, 1894.

Well-made skin in good condition, except for a little shedding of epidermis about the ears. Facial portion of skull, except right zygoma, complete; posterior portion of brain-case cut away. Mandible with both coronoid processes broken, otherwise complete.

Type designated by the original number 2. Specimen evidently not entered in catalogue at time the description was written.

**Orthogeomys nelsoni** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 173, 176-178, fig. 63, January 31, 1895.

66751. Skin and skull. Adult male. Mount Zempoaltepec, Oaxaca, Mexico. July 8, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6376.

Well-made skin in good condition; skull perfect.

Genus HETEROGEOMYS.

**Heterogeomys torridus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 8, pp. 180, 183-185, numerous pls. and figs., January 31, 1895.

63629. Skin and skull. Adult female. Chichicastle, Vera Cruz, Mexico. February 15, 1894. Collected by E. W. Nelson. Original number 5850.

Well-made skin in good condition; skull perfect, except for absence of left upper premolar.

Genus MACROGEOMYS.

**Macrogeomys costaricensis** Merriam.

North Amer. Fauna, No. 8, p. 192, pl. 11, fig. 3; pl. 13, fig. 23; pl. 14, fig. 10, January 31, 1895.

$\frac{12}{22} \frac{9}{11}$ . Skin and skull. Young. Pacuare, Costa Rica. 1876. Collected by Juan Cooper. Original number 96. Skin catalogued June 23, 1878; skull, February 1, 1887.

Well-made skin in good condition; a little hair gone from the occiput; skull in good condition; except right upper incisor broken, also tips of nasals; pterygoids somewhat damaged.

**Macrogeomys dolichocephalus** Merriam.

North Amer. Fauna, No. 8, p. 189, pl. 5; pl. 10, fig. 7; pl. 13, fig. 19, January 31, 1895.

$\frac{8627}{36295}$ . Skin and skull. Adult male. San José, Costa Rica. January, 1866. Collected by José C. Zeledon. Explorations in Costa Rica under Dr. A. Von Frantzius. Skin catalogued November 6, 1866; skull, October 31, 1893.

Skin not very well made up, but apparently in good condition; skull nearly perfect, somewhat damaged about pterygoids, and a quadrangular hole is in supraoccipital, running up from foramen magnum.

## Genus ZYGOGOMYS.

**Zygoemys trichopus** Merriam.      Biological Survey collection.

North Amer. Fauna, No. 8, pp. 196-198, pl. 6; pl. 13, fig. 24; pl. 14, fig. 1; pl. 15, fig. 10, January 31, 1895.

50107. Skin and skull. Adult male. Nahuatzin, Michoacan, Mexico. October 11, 1892. Collected by E. W. Nelson. Original number 3571.

Well-made skin in good condition; skull perfect.

## Family MURIDÆ.

## Genus DICROSTONYX.

**Dicrostonyx unalascensis** Merriam.    Biological Survey Collection.

Proc. Wash. Acad. Sci., II, p. 25, March 14, 1900.

99622. Skull only. Adult. Unalaska, Alaska. July 8, 1899. Collected by Dr. C. Hart Merriam.

Nearly perfect skull from owl pellet.

## Genus LEMMUS.

**Lemmus minusculus** Osgood.      Biological Survey collection.

North Amer. Fauna, No. 24, pp. 36-37, November 23, 1904.

119612. Skin and skull. Adult male. Kakhtul River, near mouth of Malchatna River, Alaska. September 1, 1902. Collected by W. H. Osgood and A. G. Maddren. Original number 1903.

Well-made skin in good condition; skull perfect.

**Myodes nigripes** True.

Diagnoses of New North American Mammals, p. 2, April 26, 1894. (Reprinted in Proc. U. S. Nat. Mus., XVII, No. 999, p. 242, November 15, 1894.)

=*Lemmus nigripes* (True). See Miller, North Amer. Fauna, No. 12, p. 37, July 23, 1896.

59152. Skin and skull. Adult male. St. George Island, Alaska. August 18, 1892 (or 1893). Collected by C. H. Townsend, U. S. Bureau of Fisheries steamer *Albatross*. Catalogued February 5, 1894.

Well-made skin in good condition; skull with part of left zygoma and both coronoid processes of mandible absent; otherwise perfect.

**Lemmus yukonensis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, p. 27, March 14, 1900.

98849. Skin and skull. Young adult female. Charlie Creek, Yukon River, Alaska. August 9, 1899. Collected by W. H. Osgood. Original number 769.

Well-made skin in good condition; skull perfect.

## Genus SYNAPTOMYS.

**Synaptomys (Mictomys) bullatus** Preble. Biological Survey coll.

Proc. Biol. Soc. Wash., XV, pp. 181-182, August 6, 1902.

110632. Skin and skull. Adult male. Trout Rock, 25 miles south of Fort Rae, Great Slave Lake, Mackenzie, Canada. July 17, 1901 (not August 17, 1901, as in original description). Collected by E. A. Preble. Original number 4511.

Well-made skin in good condition; skull perfect.

**Synaptomys cooperi** Baird.

Mammals of North America, p. 558, 1857.

13367. Skin and skull. Received from William Cooper, of Hoboken, New Jersey. Skin catalogued February 26, 1856; skull, June, 1857. Locality unknown. Baird says, "No locality was assigned, but the animal is undoubtedly North American, probably from the New England States or New York; possibly from Iowa or Minnesota." Dr. C. H. Merriam (Proc. Biol. Soc. Wash., VII, 1892, p. 177) thinks it not unlikely that the specimen came from southern New York or northern New Jersey.

The specimen is little more than a ball of fur. Head, legs (except one fore-leg detached), and tail are lacking. The skull is in better condition. With the exception of the left zygoma the facial parts are complete and perfect, and the frontal, parietal, and most of the squamosal of the right side are present. The left half of the mandible has the angular and coronoid processes broken away, while the right half has the condyloid broken off as well.

Type designated by number on page 556 of the original description.

**Synaptomys (Mictomys) dalli** Merriam.

Proc. Biol. Soc. Wash., X, p. 62, March 19, 1896.

49373. Skeleton made from alcoholic specimen No. 10957, no other trace of which can now be found. Adult male. Nulato, Alaska. February, 1867. Collected by Dr. W. H. Dall. Catalogued October 22, 1872; skeleton April 28, 1894.

All of the skeleton is present and in good condition; skull not quite perfect; right malar absent; a piece out of the supraoccipital and both coronoid processes of mandible more or less broken.

**Synaptomys helaletes gossii** Merriam.

Proc. Biol. Soc. Wash., X, p. 60, March 19, 1896.

6915. Skull. (No record of a skin.) Adult male. Neosho Falls, Kansas. 1866. Collected by B. F. Goss. Catalogued May 4, 1866.

Skull perfect, except incisors broken off nearly to the alveoli; both pterygoids broken, also tip of right coronoid process of mandible.

**Synaptomys helaletes** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., X, p. 59, fig. 3, March 19, 1896.

75172. Skin and skull. Adult female. Dismal Swamp, Virginia. October 14, 1895. Collected by Dr. A. K. Fisher. Original number 1818.

Well-made skin in good condition; skull perfect.

**Mictomys innuitus** True.

Diagnoses of New North American Mammals, April 26, 1894, p. 3. (Reprinted in Proc. U. S. Nat. Mus., XVII, No. 999, p. 243, November 15, 1894.)

=*Synaptomys* (*Mictomys*) *innuitus* (True). See Merriam, Proc. Biol. Soc. Wash., X, p. 61, March 19, 1896.

$\begin{smallmatrix} 14838 \\ 24729 \end{smallmatrix}$ . In alcohol; skull removed. Adult female. Fort Chimo, Ungava, Labrador. Spring of 1886. Collected by L. M. Turner. Original number 506.

Specimen in good state of preservation, but unnecessarily opened up, in order to remove the skull; skull in good condition, except right pterygoid broken away, hole at the posterior lateral angle of the right parietal, and mandible with both angular processes broken away.

**Synaptomys** (*Mictomys*) *sphagnicola* Preble. Biol. Survey coll.

Proc. Biol. Soc. Wash., XIII, pp. 43-45, fig. 3a, May 29, 1899.

96543. Skin and skull. Adult male. Fabyans, near base of Mount Washington, New Hampshire. June 29, 1898. Collected by E. A. Preble. Original number 2402.

Well-made skin in good condition; skull perfect.

**Synaptomys** (*Mictomys*) *truei* Merriam.

Proc. Biol. Soc. Wash., X, p. 62, March 19, 1896.

$\begin{smallmatrix} 3798 \\ 12101 \end{smallmatrix}$ . Skin only; skull lost. Young adult. Skagit Valley, Washington. August 6, 1859. Collected by Dr. C. B. Kennerly. Original number 304. Northwestern Boundary Survey, A. Campbell, commander. Skin catalogued February 21, 1860; skull February, 1872.

Skin a mere flat pelt glued on a piece of cloth with the left hind leg (the only one present) tied to it. In the original description Dr. C. Hart Merriam says the skull was in fragments. These can not now be found.

**Synaptomys (Mictomys) wrangeli** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., X, p. 63, fig. 5, March 19, 1896.

74720. Skin and skull. Adult male. Wrangel, Alaska. September 6, 1895. Collected by C. P. Streator. Original number 4871.

Well-made skin in good condition; skull perfect except for slight injury to end of nasals and an irregular perforation of the anterior part of brain case beneath the frontals.

## Genus MICROTUS.

**Microtus abbreviatus** Miller.

Proc. Biol. Soc. Wash., XIII, p. 13, January 31, 1899.

♂<sup>55</sup>♂<sub>4</sub>♀. Skin and skull. Young adult female. Hall Island, Bering Sea. September 8, 1885. Collected by C. H. Townsend. Catalogued September 10, 1886.

Considering its history, the skin is in good condition. It has been remade into a modern study skin. Mr. Miller (*loc. cit.*) says: "Mr. Townsend tells me that the specimen was preserved dry. It was received at the National Museum in September, 1886, and its subsequent history is not known. It was found in a bottle of alcohol in October, 1898." Skull not in such good condition as the skin; rather damaged, including the lower jaw, on the right-hand side and posteriorly.

**Microtus acrophilus** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 296, August 9, 1899.

62162. Skin and skull. Adult female. On the Ladak side of the Kara Korum Pass, altitude 17,000 feet, Kashmir. July 25, 1893. Collected by Dr. W. L. Abbott. Catalogued May 16, 1895.

Well-made skin and in good condition; skull has lost both malars, left pterygoid, and there is a hole in the left half of the basioccipital.

**Microtus oregoni adocetus** Merriam. Biological Survey Collection.

Proc. Biol. Soc. Wash., XXI, pp. 145-146, June 9, 1908.

137995. Skin and skull. Adult male. South Yallobally Mountain, California. July 30, 1905. Collected by A. S. Bunnell. Original number 135.

Well-made skin in good condition; skull perfect.

**Arvicola albicauda** True.

Proc. U. S. Nat. Mus., XVII, No. 976, p. 12, May 8, 1894.

=**Microtus albicauda** (True). See Miller, North Amer. Fauna, No. 12, p. 54, July 23, 1896.

♂<sup>88</sup>♂<sub>1</sub>♀. Skin and skull. Adult female. Braldu Valley, Baltistan, Kashmir; altitude 11,000 feet. December 19, 1891. Collected by Dr. W. L. Abbott. Skin catalogued August 11, 1892; skull, March 7, 1894.

Well-made skin in good condition; skull with left malar missing, left bulla injured, and right coronoid process of mandible broken, otherwise perfect.



**Neofiber alleni** True.

Science, IV, p. 34, July 11, 1884.

=**Microtus alleni** (True). See Miller, North Amer. Fauna, No. 12, p. 9, July 23, 1896.

♂  $\frac{110}{94}$   $\frac{65}{51}$ . Skin, viscera in alcohol, and skeleton. Adult male. Georgia, Brevard County, Florida. Collected by William Wittfeld. Received in Museum December 24, 1883. Catalogued January 17, 1884; skeleton June, 1885.

The whole specimen was originally in alcohol. It was then skinned, mounted, and placed on exhibition. The skeleton was prepared and the viscera put in alcohol. The mounted specimen has since been taken down and made into a study skin which is well made and in good condition except for a small naked spot on the right hip and the loss of many toenails. It is much lighter than normal, from exposure to light and probably from the effects of alcohol. The skeleton is in excellent condition and on exhibition in the Division of Comparative Anatomy. The viscera, both abdominal and thoracic, are well preserved.

Type not designated by number in the original description. The above specimen is said by Dr. F. W. True and F. A. Lucas to be the original specimen, which was unique at the time of describing.

**Arvicola (Mynomes) alticolus** Merriam. Biological Survey coll.

North Amer. Fauna, No. 3, pp. 67-69, pl. 5, figs. 1-2; pl. 6, figs. 1-4, September 4, 1890.

=**Microtus alticolus** (Merriam). See Allen, Bull. Amer. Mus. Nat. Hist., VII, p. 219, June 29, 1895.

♂  $\frac{110}{94}$   $\frac{65}{51}$ . Skin and skull. Adult female. Little Spring, San Francisco Mountain, Arizona. July 31, 1889. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 243.

Well-made skin in good condition; skull perfect except for perforation in left auditory bulla and repaired fractures of frontals and parietals.

**Microtus angusticeps** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 86, April 30, 1898.

♂  $\frac{110}{94}$   $\frac{87}{68}$ . Skin and skull. Adult male. Crescent City, California. June 16, 1889. Collected by Dr. T. S. Palmer. Original number 151.

Well-made skin in good condition; skull perfect.

**Arvicola apella** Le Conte.

Proc. Acad. Nat. Sci. Phila., VI, p. 405, this paper was favorably reported for publication October 25, 1853.

=**Microtus pinetorum scalopsoides** (Audubon and Bachman). See Batchelder, Proc. Bost. Soc. Nat. Hist., XXVII, p. 187, October, 1896.

4714. Skin with skull inside. Pennsylvania. One of Major J. E. Le Conte's collection. Catalogued April 13, 1861.

Skin poorly made up, but well preserved.

This specimen not designated by number as a type. The specimen bears two old labels each marked "apella," as well as one of Coues' labels calling it the type. In Monographs of North American Rodentia, pages 223 and 224, Coues refers to No. 4714 as the type of *Arvicola apella* Le Conte.

**Microtus aphorodemus** Preble. Biological Survey collection.

North Amer. Fauna, No. 22, pp. 52-53, October 31, 1902.

106422. Skin and skull. Adult female. West shore Hudson Bay, on barren grounds, about 50 miles south of Cape Eskimo, Keewatin, Canada. August 5, 1900. Collected by E. A. Preble. Original number 3208.

Well-made skin in good condition; skull perfect.

**Microtus montanus arizonensis** Bailey. Biological Survey coll.

Proc. Biol. Soc. Wash., XII, p. 88, April 30, 1898.

$\frac{2}{3} \frac{4}{2} \frac{1}{1} \frac{1}{3} \frac{1}{3}$ . Skin and skull. Adult male. Springerville, Arizona. November 7, 1890. Collected by E. W. Nelson. Original number 153.

Well-made skin in good condition; skull perfect.

**Microtus pinetorum auricularis** Bailey. Biological Survey coll.

Proc. Biol. Soc. Wash., XII, p. 90, April 30, 1898.

$\frac{3}{4} \frac{4}{6} \frac{1}{1} \frac{1}{3} \frac{1}{3}$ . Skin and skull. Adult male. Washington, Mississippi. May 26, 1892. Collected by V. Bailey. Original number 3649.

Well-made skin in good condition; skull perfect.

**Arvicola austerus** Le Conte.

Proc. Acad. Nat. Sci. Phila., VI, p. 405, this paper was favorably reported for publication October 25, 1853.

=**Microtus ochrogaster** (Wagner). See Allen, Bull. Amer. Mus. Nat. Hist., X, p. 459, November 10, 1898; Osgood, Proc. Biol. Soc. Wash., XX, p. 48, April 18, 1907.

2249. Skin (no record of a skull). Racine, Wisconsin. Collected by Dr. P. R. Hoy. Original number 950. Catalogued February 28, 1857.

Poorly made skin, right hind leg nearly detached, but specimen well preserved.

Type not designated by number. The specimen bears one old label inscribed "*Arvicola austerus* Racine, Wisc." on the obverse, and on the reverse "Type of species." In the "Remarks" column in the old original catalogue is written "Type of Maj. Le Conte." On pages 210 and 214 of Monographs of North American Rodentia, Coues speaks of 2249 as the type of *Arvicola austerus*.

**Microtus bairdi** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 74-75, April 21, 1897.

79906. Skin and skull. Adult female. Glacier Peak, Crater Lake, Oregon. August 24, 1896. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 5813.

Well-made skin in good condition; skull with badly broken parietals and tips of nasals.

**Microtus mordax bernardinus** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XXI, p. 145, June 9, 1908.

150632. Skin and skull. Adult male. Dry Lake, San Bernardino Mountains, California; altitude 9,000 feet, at north base San Geronio Peak. August 21, 1907. Collected by V. Bailey. Original number 8749.

Well-made skin in good condition; skull perfect.

**Microtus brachelix** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 290, August 9, 1899.

63445. Skin and skull. Young adult female. Nagmarg, Kashmir; 9,000 feet. November 15, 1895. Collected by Dr. W. L. Abbott. Catalogued June 12, 1896.

Well-made skin in good condition; skull originally much broken, but glued together so that it is nearly perfect except about the pterygoids.

**Arvicola breweri** Baird. Cotypes.

Mammals of North America, p. 525, 1857.

=**Microtus breweri** (Baird). See Miller, Proc. Bost. Soc. Nat. Hist., XXVII, p. 83, June, 1896.

No particular specimen is designated by Baird as the type and there is nothing to show that any one of the six specimens given in his list should be taken as such. Consequently all six listed become cotypes. They were collected in July, 1856, on Muskeget Island, Massachusetts, by Dr. T. M. Brewer. Catalogued May 31, 1857.

The specimens are as follows:

2828. Adult male in alcohol; in good condition.

2829. Adult male in alcohol; can not be found.

$\frac{2}{3} \frac{8}{2} \frac{3}{13}$ . Adult female. Skin and skull.

Skin poorly made, but well preserved, except for two spots devoid of hair on side. Skull quite perfect, except pterygoids; right half of mandible lost.

$\frac{2}{3} \frac{8}{2} \frac{3}{14}$ . Adult male. Skin and skull.

Skin poorly made, but well preserved. Skull lacks the right tympanic, periotic, and mastoid bones and the right half of mandible.

$\frac{2}{3} \frac{8}{2} \frac{3}{20}$ . Immature male. Skin and skull.

Skin can not now be found. Skull present. Both malars and posterior half of brain case missing. Two extra molars present, perhaps belonging to the missing lower jaws of the two preceding.

2833. Specimen in alcohol; can not now be found.

**Arvicola californica** Peale.

U. S. Exploring Expedition, Mammalia and Ornithology, p. 46, 1848.

=**Microtus californicus** (Peale). See Trouessart, Catalogus Mammalium, p. 563, 1897.

$\frac{1}{4} \frac{0}{1} \frac{0}{5} \frac{8}{6} \frac{2}{6}$ . Skin and skull. Vicinity of San Francisco Bay, California. Collected by T. R. Peale. U. S. Exploring Expedition from 1838 to 1842. Skin catalogued 1872; skull, 1860.

Skin poorly made up; tail not skinned out. It looks rather discolored. The catalogue entry says "Dry," but the specimen looks as if it had been in alcohol at one time. An old parchment label further bears out this view. Skull injured about the pterygoids; both bullae, especially the left, and the right zygoma somewhat injured. The ascending parts of left half of mandible broken away.

Type not designated by number. In the entry of the skin in 1872 (twelve years after entry of the skull<sup>a</sup>) under the remarks column of the catalogue is written in the handwriting of the original entry "type of californicus." The old parchment label on the specimen is marked "*Arvicola Californica* Peale." One of Dr. Coues's labels is attached, marked "Monograph of American Muridae. Dr. Elliott Coues, U. S. A., No. 10082. Type of *Arvicola 'californica.'*" On page 534 of Mammals of North America, Baird speaks of having the original specimen. In the table on page 173, Monographs of North American Rodentia, Dr. Coues has 10082 marked as the type of "*californicus.*"

**Microtus nanus canescens** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 87-88, April 30, 1898.

90577. Skin and skull. Adult male. Conconully, Washington. September 12, 1897. Collected by J. A. Loring. Original number 4654.

Well-made skin in good condition; skull lacking entire rostral portion except one loose upper incisor; right audital bulla injured; anterior wall of brain case perforated; ends of lower incisors broken off.

**Microtus canicaudus** Miller. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 67-68, April 21, 1897.

75841. Skin and skull. Adult male. McCoy, Oregon. December 1, 1895. Collected by B. J. Bretherton. Original number 219.

Well-made skin in good condition; skull perfect, except for absence of left coronoid process.

**Arvicola (Pedomys) cinnamomea** Baird.

Mammals of North America, p. 541, pl. 54, [Specimen No. 1714] (teeth), 1857.

=**Microtus ochrogaster** (Wagner). See Osgood, Proc. Biol. Soc. Wash., XX, p. 48, April 18, 1907.

$59\frac{1}{4}$ . Skin (lost) and skull. Adult male. Pembina, North Dakota. Collected by C. Cavileer. Original number 23. Catalogued March 19, 1855.

The skin, number 591, according to a note in the catalogue, was misplaced before 1890 and has not been found since. Skull in fair condition; pterygoids broken, both malars lacking, and pieces broken off the processes of the mandible.

Baird had but one specimen, the above, designated by number.

Bailey, North American Fauna No. 17, page 74, says, "Except for a slightly abnormal tooth pattern, Baird's type of *cinnamomea* is a large specimen of typical *asterus*. I can not believe that it ever came from Pembina."

<sup>a</sup>Bailey (North Amer. Fauna, No. 17, p. 35) thinks the skull is abnormal or never came from the same animal as the skin. This lapse of time between the two entries substantiates the latter view.

**Microtus californicus constrictus** Bailey. Biological Survey coll.

North Amer. Fauna, No. 17, pp. 15, 36-37, June 6, 1900.

98347. Skin and skull. Adult male. Cape Mendocino, California. September 6, 1899. Collected by V. Bailey. Original number 7174.

Well-made skin in good condition; skull perfect.

**Microtus cricetulus** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 294, August 9, 1899.

84043. Skin and skull. Adult male. Banks of the Tso Kyun, Ladak; altitude 16,000 feet. August 11, 1897. Collected by Dr. W. L. Abbott. Catalogued March 3, 1898.

Well-made skin in good condition; skull perfect.

**Arvicola curtata** Cope.

Proc. Acad. Nat. Sci. Phila., 1868, p. 2. Presented at meeting of January 21, 1868.  
=**Microtus curtatus** (Cope). See Miller, North Amer. Fauna, No. 12, p. 51, July 23, 1896.

$\frac{192}{3741\frac{1}{2}}$ . Fragments of skull and feet. Collected by Prof. W. M. Gabb at Pigeon Spring, Mount Magruder, Nevada, near boundary between Inyo County, California, and Esmeralda County, Nevada. Skin catalogued October 15, 1872; skull, May 5, 1898.

The following is an inventory of the fragments: (1) Both hind feet, one of them with tibia attached; (2) both fore feet, one of them with radius and ulna attached, the other radius and ulna present and a portion of each humerus present; (3) a few small, almost unidentifiable fragments of the skull; (4) all the upper molars, still attached or glued to a good-sized fragment of the palate, the free ends of the incisors in small parts of the premaxillaries; (5) all of the lower jaw teeth except the last molar of the left side; the two other molars of that side are attached to a piece of the mandible; the incisors rather fragmentary.

Type not designated by number. In the catalogue, in the handwriting of the original entry, the specimen is marked "Cope's type." The present specimen is indicated as the type by Dr. Coues in Monographs of North American Rodentia, pages 215 to 217, where it appears that the specimen was in as bad condition in 1877 as it is now. One of Dr. Coues's labels, reading "No. 10267, Type of *Arvicola curtata* Cope," is still attached to the specimen.

**Microtus dutcheri** Bailey. Biological Survey Collection.

Proc. Biol. Soc. Wash., XII, pp. 85-86, April 30, 1898.

$\frac{29769}{41848}$ . Skin and skull. Adult male. Big Cottonwood Meadows, Mount Whitney, California. July 10, 1891. Collected by Dr. B. H. Dutcher, U. S. A. Original number 69.

Well-made skin in good condition; skull perfect.

**Arvicola edax** Le Conte.

Proc. Acad. Nat. Sci. Phila., VI, p. 405, this paper was favorably reported for publication October 25, 1853.

=**Microtus edax** (Le Conte). See Allen, Bull. Amer. Mus. Nat. Hist., VIII, p. 268, December 4, 1896.

<sup>4721</sup><sub>37298</sub>. Skin and skull. Collected by J. L. Le Conte in California, south of San Francisco. Skin catalogued April 13, 1861; skull, April 27, 1897.

Specimen made into a modern study skin, in good condition, and skull removed in the early part of 1897. The posterior and basal portions of cranium have been cut away, including the left upper molar. The posterior parts of the right half of mandible are broken away. Upper incisors are broken.

Type not designated by number. The present specimen seems to be the only one in the collection collected in California by Le Conte which is positively stated by Baird, page 532 of his Mammals, to be the type. In the table on page 173, Monographs of North American Rodentia, Dr. Coues says the present specimen, 4721, is the type of *edax*.

**Microtus elymocetes** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XIX, pp. 71-72, May 1, 1906.

137323. Skin and skull. Adult male. Montague Island, Prince William Sound, Alaska. May 12, 1905. Collected by C. Sheldon. Original number 8 (5448x).

Well-made skin in good condition; skull perfect.

**Arvicola fertilis** True.

Proc. U. S. Nat. Mus., XVII, No. 976, p. 10, May 8, 1894.

=**Microtus fertilis** (True). See Miller, North Amer. Fauna, No. 12, p. 55, July 23, 1896.

<sup>29117</sup><sub>29117</sub>. Skin and skull. Adult female. Pir Panjal Range, Kashmir; altitude 8,500 feet. August 30, 1891. Collected by Dr. W. L. Abbott. Catalogued May 9, 1892.

Well-made skin in good condition; skull perfect, except that the bullæ and pterygoids have been cut away.

**Microtus abbreviatus fisheri** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., II, p. 23, March 14, 1900.

97976. Skin and skull. Adult male. St. Matthew Island, Bering Sea. July 15, 1899. Collected by Dr. A. K. Fisher. Original number 2189.

Well-made skin in good condition; skull perfect.

**Microtus fulviventer** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 106, April 30, 1898.

68250. Skin and skull. Adult male. Cerro San Felipe, Oaxaca, Mexico. August 22, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6601.

Well-made skin in good condition; skull perfect, except for absence of both coronoid processes and left angular process of mandible.

**Microtus mexicanus guadalupensis** Bailey. Biological Survey coll.

Proc. Biol. Soc. Wash., XV, pp. 118-119, June 2, 1902.

109191. Skin and skull. Adult male. Guadalupe Mountains, Texas; altitude, 7,800 feet. August 21, 1901. Collected by V. Bailey. Original number 7807.

Well-made skin in good condition; skull perfect.

**Microtus guatemalensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 108, April 30, 1898.

76777. Skin and skull. Adult male. Todos Santos, Huehuetenango, Guatemala. December 30, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8960.

Well-made skin in good condition; skull perfect.

**Arvicola (Pedomys) haydenii** Baird.

Mammals of North America, p. 543, 1857.

=**Microtus ochrogaster haydenii** (Baird). See Osgood, Proc. Biol. Soc. Wash., XX, p. 48, April 18, 1907.

$\frac{6.9}{1.862}$ . Skin and skull. Adult male. Collected in 1854 by Dr. F. V. Hayden at Fort Pierre, then in "Nebraska," now in Stanley County, South Dakota. Catalogued May 19, 1855.

Skin badly made up, legs spreading, tail not skinned out; a small patch on each side of body without hair; general condition of pelage good. Skull in good condition, but left half of mandible lost.

This was Baird's only specimen and was designated by number.

**Microtus innuitus** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, pp. 21-22, March 14, 1900.

99373. Skull only. Adult. St. Lawrence Island, Bering Sea. July 13, 1899. Collected by Dr. C. Hart Merriam.

Skull obtained from an owl pellet; slightly stained; last left upper molar missing; left parietal slightly fractured; left coronoid process and right mandibular ramus missing.

**Microtus kadiacensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 222, July 15, 1897.

=**Microtus operarius kadiacensis** Merriam. See Osgood, North Amer. Fauna, No. 21, p. 64, September 26, 1901.

65827. Skin and skull. Young adult female. Kodiak Island, Alaska. September 12, 1893. Collected by B. J. Bretherton. Original number 213.

Well-made skin in good condition; skull perfect except for absence of left auditral bulla.

**Arvicola longirostris** Baird.

Mammals of North America, p. 530, 1857.

= **Microtus montanus** (Peale). See Bailey, North Amer. Fauna, No. 17, p. 27, June 6, 1900.

$\frac{2}{1} \frac{6}{2} \frac{5}{3}$ . Mounted skin and fragmentary skull. Adult female. Upper Pitt River, California. September, 1855. Collected by Dr. J. S. Newberry. Catalogued January, 1856.

Mounted specimen in fair condition; a little hair gone from the right side. Skull very fragmentary. Both halves of lower jaw complete. Upper teeth loose, but all present from each side and in a separate glass tube. A few other fragments are in another tube.

Baird had but one specimen, the above, which he designated by number.

**Microtus ludovicianus** Bailey. Biological Survey collection.

North Amer. Fauna, No. 17, pp. 74-75, June 6, 1900.

96624. Skin and skull. Adult male. Iowa, Calcasieu Parish, Louisiana. April 7, 1899. Collected by V. Bailey. Original number 6767.

Well-made skin in good condition; skull perfect.

**Microtus macfarlani** Merriam.

Proc. Wash. Acad. Sci., II, p. 24, March 14, 1900.

$\frac{2}{3} \frac{1}{7} \frac{5}{3} \frac{5}{4} \frac{5}{7}$ . Skin and skull. Fort Anderson, north of Great Bear Lake, Mackenzie, Canada. 1865. Collected by R. MacFarlane. Original number 3179. Skin catalogued July, 1868; skull, March 31, 1898.

Specimen remade into a modern study skin and the skull removed and cleaned in March, 1898. The skin is well preserved and in good condition save for some apparent lengthwise stretching. Skull perfect, except for loss of right malar and a hole in left audital bulla.

**Arvicola (Mynomes) macropus** Merriam. Biological Survey coll.

North Amer. Fauna, No. 5, pp. 59-61, pl. 2, figs. 7-8, July 30, 1891.

= **Microtus richardsoni macropus** (Merriam). See Bailey, North Amer. Fauna, No. 17, p. 61, June 6, 1900.

$\frac{2}{3} \frac{3}{1} \frac{4}{2} \frac{4}{2} \frac{4}{1}$ . Skin and skull. Adult female. Pahsimeroi Mountains, Idaho. September 16, 1890. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 1803.

Well-made skin in good condition; skull perfect.

**Microtus macrurus** Merriam. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., p. 353, October 4, 1898.

66151. Skin and skull. Adult female. Lake Cushman, Olympic Mountains, Washington. June 26, 1894. Collected by C. P. Streater. Original number 3975.

Well-made skin in good condition; skull perfect, except for broken frontals and right audital bulla.



**Microtus miurus** Osgood. Biological Survey collection.

North Amer. Fauna, No. 21, pp. 64-66, September 26, 1901.

107175. Skin and skull. Adult male. Head of Bear Creek, near Hope, Turnagain Arm, Cook Inlet, Alaska. September 4, 1900. Collected by W. H. Osgood and E. Heller. Original number 1349.

Well-made skin in good condition; skull perfect, except for slight perforation in right frontal.

**Arvicola modesta** Baird.

Mammals of North America, p. 535, 1857.

=**Microtus pennsylvanicus modestus** (Baird). See Bailey, North Amer. Fauna, No. 17, p. 20, June 6, 1900.

$\frac{5.9}{17} \frac{4}{17}$ . Skin and skull. Immature. Sawatch Pass, Rocky Mountains, near Cochetopa Pass, Saguache County, Colorado. Collected by Mr. Kreutzfeldt. Original number 16. Pacific Railroad Survey near 38° lat., Lieut. E. G. Beckwith, U. S. A. Catalogued March 19, 1855.

Skin very fragmentary and dilapidated. Right fore foot still attached. Two other feet loose and also tip of tail. Skull young; ends of nasals and upper incisors broken, both malars, all the occipital bones, the interparietal and most of the parietals missing. Left half of the mandible has angular and coronoid processes broken away; right half, part of angular process and entire coronoid missing.

Of Baird's two specimens, both designated by numbers, the above is the only one that he refers with certainty to *modesta*.

**Arvicola montana** Peale. See page 289.**Arvicola montosa** True.

Proc. U. S. Nat. Mus., XVII, No. 976, p. 11, May 8, 1894.

=**Microtus montosus** (True). See Miller, Proc. Acad. Nat. Sci. Phila., 1899, p. 293, August 9, 1899.

$\frac{2}{3} \frac{0}{5} \frac{1}{5} \frac{4}{5} \frac{5}{5}$ . Skin and skull. Half-grown male. Central Kashmir, altitude 11,000 feet. October 4, 1891. Collected by Dr. W. L. Abbott. Catalogued May 9, 1892.

Well-made skin in good condition, but rather contracted posteriorly; skull injured about the pterygoids, a hole in right bulla, and both coronoid processes of mandible broken; otherwise perfect.

**Arvicola (Mynomes) mordax** Merriam. Biological Survey coll.

North Amer. Fauna, No. 5, pp. 61-62, pl. 2, figs. 3-4, July 30, 1891.

=**Microtus mordax** (Merriam). See Trouessart, Catalogus Mammalium, p. 564, 1897.

$\frac{2}{3} \frac{4}{16} \frac{2}{16} \frac{3}{16} \frac{1}{16}$ . Skin and skull. Adult male. Sawtooth Lake, Idaho. September 29, 1890. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 1903.

Well-made skin in good condition; skull perfect.

**Arvicola (Mynomes) nanus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 5, pp. 62-63, pl. 2, figs. 5-6, July 30, 1891.

= **Microtus nanus** (Merriam). See Miller, Proc. Biol. Soc. Wash., XI, p. 67; April 21, 1897.

$\frac{2}{3} \frac{6}{1} \frac{8}{2} \frac{5}{2} \frac{3}{3}$ . Skin and skull. Adult female (not male, as in original description). Pahsimeroi Mountains, Idaho, September 16, 1890. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 1809.

Well-made skin in good condition; skull perfect.

**Microtus pinetorum nemoralis** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 89-90, April 30, 1898.

87246. Skin and skull. Adult female. Stilwell, Boston Mountains, Oklahoma. April 7, 1897. Collected by J. A. Loring. Original number 3905.

Well-made skin in good condition; skull perfect.

**Microtus nevadensis** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 86-87, April 30, 1898.

$\frac{2}{3} \frac{6}{4} \frac{8}{2} \frac{7}{2} \frac{1}{1}$ . Skin and skull. Adult male (not female, as in original description). Ash Meadows, Nye County, Nevada. March 2, 1891. Collected by E. W. Nelson. Original number 577.

Well-made skin in good condition; skull perfect, except for broken audital bullæ and left coronoid process.

**Arvicola occidentalis** Peale.

U. S. Exploring Expedition, Mammalia and Ornithology, p. 45, 1848.

= **Microtus townsendi** (Bachman). See Bailey, North Amer. Fauna, No. 17, p. 46, June 6, 1900.

$\frac{1}{4} \frac{0}{1} \frac{0}{1} \frac{8}{6} \frac{8}{7} \frac{3}{7}$ . Skin and skull. Puget Sound, Washington. U. S. Exploring Expedition, 1838 to 1842. Collected by T. R. Peale. Skin catalogued 1872; skull, 1860.

Poorly made skin, tail not skinned out. It has somewhat the look of having been in alcohol at one time. Some of the hair has slipped from each side, especially the right. Skull fairly good for an old specimen; right zygoma missing and both bullæ and both pterygoids broken, coronoid process of right half of mandible broken.

Type not designated by number. In the entry of the skin in 1872 (twelve years after the skull was entered in the catalogue) under the remarks column is written, in the handwriting of the original entry, "type of *occidentalis*." On page 535 of Mammals of North America, Baird speaks of having the original specimen. One of Doctor Coues's labels is attached marked "Monograph of American Muridæ. Dr. Elliott Coues, U. S. A. No. 10083. Type of *Arvicola 'occidentalis'* Peale." In the table on page 173, Monographs of North American Rodentia, Doctor Coues has 10083 marked as the type of "*occidentalis*."

**Arvicola operarius** Nelson.

Proc. Biol. Soc. Wash., VIII, p. 139, December 28, 1893.

=**Microtus operarius** (Nelson). See Trouessart, *Catalogus Mammalium*, p. 564, 1897.

$\frac{1}{2}$   $\frac{4}{3}$   $\frac{3}{2}$   $\frac{1}{2}$ . Skin and skull. Adult. St. Michael, Alaska. November, 1879. Collected by E. W. Nelson. Original number 122. Skin catalogued June 11, 1884; skull, March 19, 1886.

Skin well preserved, but poorly made up, and right fore leg missing. Skull perfect, except coronoid of left half of mandible broken away, left bulla slightly injured.

**Microtus miurus oreas** Osgood.

Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 61-62, April 18, 1907.

148596. Skin and skull. Adult male. Head of Toklat River, Alaskan Range, Alaska. August 8, 1906. Collected by C. Sheldon. Original number 47 (6289x).

Well-made skin in good condition; skull perfect, except for broken left audital bulla and two slight perforations in brain case.

**Microtus pamirensis** Miller.

Proc. Acad. Nat. Sci. Phila., 1899, p. 287, August 9, 1899.

62161. Skin and skull. Adult male. Tagdumbash, Pamir; altitude 12,000 feet. June 18, 1894. Collected by Dr. W. L. Abbott. Catalogued May 16, 1895.

Well-made skin in good condition; skull with left pterygoid broken and hole in right audital bulla; otherwise perfect.

**Arvicola pauperrima** Cooper.

Amer. Nat., II, p. 535, December, 1868.

=**Microtus pauperrimus** (Cooper). See Miller, *North Amer. Fauna*, No. 12, p. 51, July 23, 1896.

$\frac{1}{3}$   $\frac{9}{8}$   $\frac{6}{7}$   $\frac{8}{1}$ . Skin and skull. Adult male, "(♂)." Great Plains of the Columbia, near the Snake River, southwestern Washington. October 9, 1860. Collected by Dr. J. G. Cooper. Original number 126. Skin catalogued October 15, 1872; skull, March 5, 1891.

Skin in poor condition; parts about head and shoulders glued on to a cotton filling. Posterior upper parts good for color; all the feet present, also the tail. Skull in fragments, viz: (1) The premaxillæ and maxillæ all in one piece, containing all the upper jaw teeth except the last right and left upper molars; (2) the interparietal with attached portions of the parietals; (3) a small piece of the left squamosal; (4) the horizontal parts of each half of the mandible containing all the lower teeth, of which the left incisor is broken at the cutting edge.

Type in original number.

**Arvicola phæus Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 171-172, September 29, 1892.

=**Microtus mexicanus phæus** (Merriam). See Bailey, North Amer. Fauna, No. 17, p. 54, June 6, 1900.

$\frac{3}{4} \frac{3}{6} \frac{6}{6} \frac{0}{4} \frac{5}{0}$ . Skin and skull. Adult female. North slope Sierra Nevada de Colima, Jalisco, Mexico; altitude 10,000 feet. April 21, 1892. Collected by E. W. Nelson. Original number 2516.

Well-made skin in good condition; skull perfect, except for injured occipital condyles and right audital bulla.

**Microtus unalascensis popofensis Merriam.** Biol. Survey coll.

Proc. Wash. Acad. Sci., II, pp. 22-23, March 14, 1900.

97956. Skin and skull. Adult male. Popof Island, Shumagin Islands, Alaska. July 16, 1899. Collected by W. E. Ritter. Original number 2200 (Dr. A. K. Fisher).

Well-made skin in good condition; skull perfect, except for slight perforation of right audital bulla and a perforation at base of nasals.

**Arvicola (Pitymys) pinetorum quasiater Coues.** See page 289.**Microtus ravidulus Miller.**

Proc. Acad. Nat. Sci. Phila., 1899, p. 284, August 9, 1899.

62159. Skin and skull. Adult female. Okchi, valley of the Aksai; altitude 7,000 feet, Eastern Turkestan. November 7, 1893. Collected by Dr. W. L. Abbott. Catalogued May 16, 1895.

Well-made skin in good condition; skull perfect, except some chips out of coronoid and angular processes of the mandible.

**Arvicola scalopsoides Audubon and Bachman.**

Proc. Acad. Nat. Sci. Phila., I, p. 97. Submitted for publication October 5, 1841.

=**Microtus pinetorum scalopsoides** (Audubon and Bachman). See Batchelder, Proc. Bost. Soc. Nat. Hist., XXVII, p. 187, October, 1896.

10264. Skin with skull inside. Long Island, New York. Collected by Major J. E. Le Conte, U. S. A. Catalogued October 15, 1872, so that the specimen must have been acquired long after the original description.

Skin in rather poor condition. It has somewhat the appearance of having been made up out of alcohol. The left fore foot and right hind foot are missing. On the left side there is a considerable patch without hair.

Type not designated by number. "Type of *scalopsoides*" is written in the remarks column of the catalogue in the handwriting of the original entry. In the table on page 224 of Monographs of North American Rodentia Dr. Coues calls this specimen, 10264, "Type of '*scalopsoides*' LeC." The specimen also bears one of Coues's labels reading "Monograph of American Muridæ, Dr. Elliott Coues, U. S. A., No. 10264. Type of A. '*scalopsoides*' apud Le Conte (= *pinetorum*) Long Island."

**Microtus scirpensis** Bailey. Biological Survey collection.

North Amer. Fauna, No. 17, pp. 15, 38-39, June 6, 1900.

$\frac{359}{333}$ . Skin and skull. Adult female. Amargosa River, Inyo County, California. February 26, 1891. Collected by V. Bailey. Original number 2520.

Well-made skin in good condition; skull perfect.

**Microtus serpens** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 75, April 21, 1897.

76303. Skin and skull. Adult male. Agassiz, British Columbia. December 2, 1895. Collected by C. P. Streater. Original number 5068.

Well-made skin in good condition; skull perfect, except for slight perforation in brain case.

**Microtus sitkensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 221, July 15, 1897.

73839. Skin and skull. Young adult male. Sitka, Alaska. August 3, 1895. Collected by C. P. Streater. Original number 4745.

Well-made skin in good condition; skull perfect.

**Arvicola trowbridgii** Baird.

Mammals of North America, p. 529, 1857.

=**Microtus californicus** (Peale). See Bailey, North Amer. Fauna, No. 17, p. 35, June 6, 1900.

$\frac{370}{324}$ . Mounted specimen and skull. Monterey, California. Collected by Lieut. W. P. Trowbridge, U. S. A. Catalogued January 4, 1855.

The mounted specimen is a poor-looking object, with patches devoid of hair on each side. The skull is in fair condition; both malars, left pterygoid, and right last lower molar are missing.

**Microtus tshuktshorum** Miller.

Proc. Biol. Soc. Wash., XIII, p. 11, January 31, 1899.

$\frac{841.9}{376.1}$ . In alcohol, skull removed. Adult female. Plover Bay, eastern Siberia. Collected by Lieut. John Davison. Catalogued January 12, 1866; skull, November 10, 1898.

Specimen is fairly well preserved; hair rather loose, and a considerable patch on right side devoid of hair; skull perfect.

**Microtus umbrosus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 107, April 30, 1898.

68480. Skin and skull. Adult female. Mount Zempoaltepec, Oaxaca, Mexico. February 1894. Collected by E. W. Nelson and E. A. Cope. Original number 6412.

Well-made skin in good condition; skull perfect.

**Microtus unalascensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 222, July 15, 1897.

$\frac{3}{4}$   $\frac{2}{3}$   $\frac{1}{2}$   $\frac{1}{2}$ . Skin and skull. Immature female. Unalaska, Alaska. August 13, 1891. Collected by Dr. C. Hart Merriam.

Well-made skin in good condition; skull perfect, except for slight perforation in brain case.

**Microtus californicus vallicola** Bailey. Biological Survey coll.

Proc. Biol. Soc. Wash., XII, p. 89, April 30, 1898.

$\frac{3}{3}$   $\frac{2}{2}$   $\frac{3}{3}$   $\frac{3}{3}$ . Skin and skull. Adult female. Lone Pine, Inyo County, California. December 23, 1890. Collected by E. W. Nelson. Original number 149.

Well-made skin in good condition; skull perfect, except for slightly fractured frontals.

**Microtus yakutatensis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, p. 22, March 14, 1900.

98005. Skin and skull. Adult male. North shore Yakutat Bay, Alaska. June 19, 1899. Collected by Dr. C. Hart Merriam. Original number 2101 (Dr. A. K. Fisher).

Well-made skin in good condition; skull perfect.

## Genus ASCHIZOMYS.

**Aschizomys lemminus** Miller.

Proc. Acad. Nat. Sci., Phila., 1898, p. 369, October 15, 1898.

$\frac{3}{3}$   $\frac{2}{2}$   $\frac{1}{1}$   $\frac{1}{1}$ . Skin and skull and dried body. Adult male. Kelsey Station, Plover Bay, Bering Strait, Siberia. Collected by C. W. Baxter, Western Union Company's Overland International Telegraph Expedition. Original number 423. Skin catalogued January, 1872; skull, April 29, 1897.

Well-made skin in good condition; skull perfect, except on the left side, where the roots of the molars have been purposely exposed. The dried-up body is also present. The specimen was originally preserved in alcohol and made into a study skin many years later.

## Genus EVOTOMYS.

**Evotomys alascensis** Miller.

Proc. Acad. Nat. Sci. Phila., 1898, p. 364, October 15, 1898.

= **Evotomys dawsoni** Merriam. See Osgood, North Amer. Fauna, No. 24, p. 34, November 23, 1904.

$\frac{1}{1}$   $\frac{1}{1}$   $\frac{1}{1}$   $\frac{1}{1}$ . Skin and skull. Adult male. St. Michael, Alaska. October 26, 1879. Collected by E. W. Nelson. Original number 96. Skin catalogued June 11, 1884; skull, March 19, 1886.

Recently remade as a study skin, in good condition; skull perfect, but rather poorly cleaned.

**Evotomys californicus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, p. 26, October 8, 1890.

$\frac{179}{239} \frac{11}{20}$ . Skin and skull. Adult male. Eureka, California. June 3, 1889. Collected by Dr. T. S. Palmer. Original number 110.

Well-made skin in good condition; skull perfect, except for broken tip of left nasal.

**Evotomys caurinus** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 21-22, January 27, 1898.

89460. Skin and skull. Adult male. Lund, Malaspina Inlet, British Columbia. July 18, 1897. Collected by E. A. Preble. Original number 2147.

Well-made skin in good condition; skull perfect.

**Evotomys idahoensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 5, pp. 66-67, pl. 3, figs. 5-6, July 30, 1891.

$\frac{242}{316} \frac{28}{37}$ . Skin and skull. Adult female. Sawtooth Lake, Idaho. October 4, 1890. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 1936.

Well-made skin in good condition; skull perfect.

**Evotomys gapperi loringi** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 125-126, pl. 3, fig. 3, May 13, 1897.

75795. Skin and skull. Adult male. Portland, North Dakota. November 22, 1895. Collected by J. A. Loring. Original number 3438.

Well-made skin in good condition; skull perfect.

**Evotomys mazama** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 71-72, April 21, 1897.

79913. Skin and skull. Adult male. Crater Lake, Mount Mazama, Oregon. August 15, 1896. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 5765.

Well-made skin in good condition; skull perfect.

**Evotomys nivarius** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 136-137, pl. 3, fig. 4, May 13, 1897.

66203. Skin and skull. Adult female. Mount Ellinor, Olympic Mountains, Washington. July 9, 1894. Collected by C. P. Streater. Original number 4025.

Well-made skin in good condition; skull perfect.



**Evotomys norvegicus** Miller.

Proc. Wash. Acad. Sci., II, p. 93, July 26, 1900.

84674. Skin and skull. Adult female. Bergen, Norway. May 31, 1898. Collected by Miss Thora Steineger. Original number 20. Catalogued August 20, 1898.

Well-made skin in good condition; skull perfect, except broken coronoids of the mandible.

**Evotomys obscurus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 72, April 21, 1897.

80413. Skin and skull. Adult male. Prospect, Rogue River Valley, Oregon. August 29, 1896. Collected by E. A. Preble. Original number 1455.

Well-made skin in good condition; skull perfect.

**Evotomys occidentalis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, pp. 25-26, pl. 2, fig. 1, October 8, 1890.

11447. Skin and skull. Adult male. Aberdeen, Chehalis County, Washington. August 16, 1889. Collected by Dr. T. S. Palmer. Original number 308.

Well-made skin in good condition; skull perfect, except for broken coronoids.

**Evotomys orca** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, pp. 24-25, March 14, 1900.

98028. Skin and skull. Adult female. Orca, Prince William Sound, Alaska. June 28, 1899. Collected by Dr. A. K. Fisher. Original number 2139.

Well-made skin in good condition; skull perfect.

**Evotomys hercynicus suecicus** Miller.

Proc. Wash. Acad. Sci. II, p. 101, July 26, 1900.

85046. Skin and skull. Adult female. Upsala, Sweden. August 6, 1898. Collected by J. A. Loring. Original number 5009. Catalogued September 27, 1898.

Well-made skin in good condition; skull rather damaged, right half of brain case entirely broken away, angular and coronoid processes of right half of mandible broken off.

**Evotomys vasconiaë** Miller.

Proc. Wash. Acad. Sci., II, p. 96, July 26, 1900.

86994. Skin and skull. Adult male. Montrejeau, Hautes-Pyrenees, France. July 4, 1899. Collected by Robert T. Young. Original number 625. Catalogued October 10, 1899.

Well-made skin in good condition; skull perfect, except for a few almost unnoticeable chippings.



**Evotomys wrangeli** Bailey. Biological Survey collection.  
Proc. Biol. Soc. Wash., XI, p. 120, pl. 3, fig. 5, May 13, 1897.

74724. Skin and skull. Adult female. Wrangel, Alaska. September 1, 1895. Collected by C. P. Streater. Original number 4835.  
Well-made skin in good condition; skull perfect, except for injury to posterior end of palate.

Genus PHENACOMYS.

**Phenacomys albigipes** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XIV, pp. 125-126, July 19, 1901.

97236. Skin and skull. Adult male. Redwoods near Arcata, Humboldt Bay, California. May 24, 1899. Collected by Dr. W. K. Fisher. Original number 821.  
Well-made skin in good condition; skull perfect.

**Phenacomys longicaudus** True.

Proc. U. S. Nat. Mus., XIII, No. 826, p. 303, November 15, 1890.

12971. Skin and skull. Marshfield, Coos County, Oregon. August, 1890. Collected by Aurelius Todd. Catalogued September 8, 1890.

Recently made over into a fair study skin, tail has never been skinned out. Skull in rather large and disarticulated fragments. All the teeth are present; both parietals; both frontals; both premaxillæ; most of both maxillæ; both bullæ, and parts about and including the basioccipital and basisphenoid, and most of each half of the mandible.

**Phenacomys mackenzii** Preble. Biological Survey collection.  
Proc. Biol. Soc. Wash., XV, p. 182, August 6, 1902.

110625. Skin and skull. Adult male. Fort Smith, Slave River, Mackenzie, Canada. June 29, 1901. Collected by E. A. Preble. Original number 4271.

Well-made skin in good condition; skull perfect.

**Phenacomys orophilus** Merriam. Biological Survey collection.  
North Amer. Fauna, No. 5, pp. 65-66, pl. 3, figs. 3-4, July 30, 1891.

231256. Skin and skull. Adult female. Salmon River Mountains, near head of Timber Creek, Idaho. August 28, 1890. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 1710.

Well-made skin in good condition; skull perfect, except for badly injured frontals and slightly perforated audital bullæ.

**Phenacomys preblei** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XI, p. 45, March 16, 1897.

74513. Skin and skull. Adult male. Longs Peak, Colorado. August 12, 1895. Collected by E. A. Preble. Original number 647.

Well-made skin in good condition; skull perfect.

**Phenacomys truei** Allen.

Bull. Amer. Mus. Nat. Hist., VI, p. 331, November 7, 1894.

= *Phenacomys orophilus* Merriam. See Miller, Proc. Biol. Soc. Wash., XI, p. 80, April 21, 1897.

$\frac{3.056}{8884}$ . Skin and skull. Adult. "Black Hills." August 10, 1857. Collected by Dr. W. A. Hammond, U. S. A. Original number 109. Wagon road to Bridgers Pass, Rocky Mountains, Lieut. F. T. Bryan, U. S. A. Miller, *loc. cit.*, says, "It is therefore almost beyond doubt that the type of *Phenacomys truei* was collected in Albany County or Laramie County, Wyoming, a few miles north-east of the present town of Laramie." Skin catalogued October 7, 1857; skull, November 13, 1894.

Skin in poor condition, the anterior parts much torn and glued to a cotton filling. Right fore leg missing. Apparently good for color. Skull very fragmentary; practically of value only for the molar teeth, of which three of the left mandibular ramus are missing.

## Genus FIBER.

**Fiber zibethicus hudsonius** Preble. Biological Survey collection.

North Amer. Fauna, No. 22, pp. 53-54, October 31, 1902.

106881. Skin and skull. Adult male. Fort Churchill, Keewatin, Canada. August 9, 1900. Collected by A. E. Preble. Original number 3081 (E. A. Preble).

Well-made skin in good condition; skull perfect.

**Fiber macrodon** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 143, May 13, 1897.

75940. Skin and skull. Adult female. Lake Drummond, Dismal Swamp, Virginia. October 9, 1895. Collected by Dr. A. K. Fisher. Original number 1788.

Well-made skin in good condition; skull perfect.

**Fiber zibethicus ripensis** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 119, June 2, 1902.

109012. Skin and skull. Adult male. Carlsbad, Pecos River, New Mexico. July 26, 1901 (not July 25 as in original description). Collected by V. Bailey. Original number 7757.

Well-made skin in good condition; left fore foot injured by insects and hanging by a thread of skin; skull perfect.

**Fiber spatulatus** Osgood. Biological Survey collection.

North Amer. Fauna, No. 19, pp. 36-37, pl. 6, fig. 4, October 6, 1900.

98567. Skin and skull. Young adult female. Lake Marsh, Yukon, Canada. July 3, 1899. Collected by W. H. Osgood. Original number 552.

Well-made skin in good condition, except for absence of tip of tail; left fore foot detached; skull perfect.

## Genus MYOTALPA.

**Myotalpa cansus** Lyon.

Smithsonian Miscell. Coll., L, No. 1726, p. 134, pl. 15, figs. 4-10, July 9, 1907.  
144022. Skin and skull. Adult female. Taocheo, Province of Kan-su, China. May 7, 1906. Collected by W. W. Simpson. Original number 7. Catalogued March 6, 1907.

Well-made skin in good condition; skull perfect.

## Genus NEOTOMA.

**Neotoma mexicana bullata** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., IX, pp. 122-123, July 2, 1894.

133714. Skin and skull. Adult male. Santa Catalina Mountains, Arizona. June 1, 1889. Collected by V. Bailey. Original number 114.

Well-made skin in good condition; skull perfect, except for absence of left coronoid process.

**Neotoma cumulator** Mearns.

Preliminary Diagnoses of New Mammals of the Genera *Sciurus*, *Castor*, *Neotoma*, and *Sigmodon*, from the Mexican Border of the United States, p. 3, March 5, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1132, p. 503, January 19, 1898.)

60348. Skin and skull. Adult male. Old Fort Yuma, San Diego County, California. April 2, 1894. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 3473. International Boundary Commission. Catalogued May 8, 1894.

Well-made skin in good condition; skull perfect.

**Neotoma desertorum** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, pp. 125-126, July 2, 1894.

253139. Skin and skull. Adult male. Furnace Creek, Death Valley, California. January 31, 1894. Collected by Dr. T. S. Palmer. Original number 43.

Well-made skin in good condition; skull perfect.

**Neotoma fuscipes dispar** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, pp. 124-125, July 2, 1894.

253304. Skin and skull. Adult male. Lone Pine, Inyo County, California. December 25, 1890. Collected by V. Bailey. Original number 2310.

Well-made skin in good condition; skull perfect.

**Neotoma fulviventer** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, pp. 121-122, July 2, 1894.

50165. Skin and skull. Adult female. Toluca Valley, Mexico, Mexico. November 5, 1892. Collected by E. W. Nelson. Original number 3744.

Well-made skin in good condition, except for a small bare space on abdomen; skull perfect.

**Neotoma occidentalis fusca** True.

Diagnoses of Some Undescribed Wood Rats (Genus *Neotoma*) in the National Museum, p. 2, June 27, 1894. (Reprinted in Proc. U. S. Nat. Mus., XVII, No. 1006, p. 354, November 15, 1894.)

=**Neotoma cinerea fusca** (True). See Trouessart, *Catalogus Mammalium*, p. 544, 1897.

3370. Skin without skull. Fort Umpqua, Douglas County, Oregon. Collected by Dr. E. P. Vullum. Catalogued in 1859, about February 25.

Specimen remade into a modern study skin, February, 1902; a considerable bare spot on left side, a smaller one on nose, right side, and on belly.

**Neotoma fuscipes** Baird.

*Mammals of North America*, p. 495, 1857.

22026. Skeleton. Adult male. Petaluma, California. February, 1856. Collected by E. Samuels.

The original specimen was No. 2679, preserved in alcohol, but about 1885 it was prepared as a skeleton, No. 22026. Now in good condition and on exhibition in the Division of Comparative Anatomy. Skeleton catalogued March 9, 1885; original specimen April 10, 1857.

The description immediately following the brief diagnosis reads "(2679. ♂). This animal \* \* \*." For that reason the specimen bearing this number is considered the type.

**Neotoma goldmani** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, p. 48, March 19, 1903.

116894. Skin and skull. Young adult male. Saltillo, Coahuila, Mexico. April 18, 1902. Collected by E. W. Nelson and E. A. Goldman. Original number 15101.

Well-made skin in good condition; skull perfect.

**Neotoma isthmica** Goldman. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 80-81, March 21, 1904.

73187. Skin and skull. Adult female. Huilotepec, 8 miles south of Tehuantepec, Oaxaca, Mexico. May 5, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7843.

Well-made skin in good condition; skull perfect.

**Neotoma latifrons** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, p. 121, July 2, 1894.

50135. Skin and skull. Adult male. Querendaro, Michoacan, Mexico. August 8, 1892. Collected by E. W. Nelson. Original number 3058.

Well-made skin in good condition; skull perfect.

**Neotoma leucodon** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, pp. 120-121, July 2, 1894.

50137. Skin and skull. Adult male. San Luis Potosi, Mexico. August 4, 1892. Collected by E. W. Nelson. Original number 3076.

Well-made skin in good condition, except for a bare space on throat; skull perfect, except for absence of left audital bulla.

**Neotoma micropus littoralis** Goldman. Biological Survey coll.

Proc. Biol. Soc. Wash., XVIII, pp. 31-32, February 2, 1905.

92952. Skin and skull. Adult male. Alta Mira, Tamaulipas, Mexico. April 10, 1898. Collected by E. A. Goldman. Original number 12281.

Well-made skin in good condition; skull perfect, except for absence of pterygoid processes.

**Neotoma mexicana madrensis** Goldman. Biological Survey coll.

Proc. Biol. Soc. Wash., XVIII, p. 31, February 2, 1905.

95244. Skin and skull. Adult female. Sierra Madre, near Guadalupe y Calvo, Chihuahua, Mexico. August 26, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 12918.

Well-made skin in good condition; skull perfect, except for absence of last left lower molar.

**Neotoma magister** Baird. Cotypes.

Mammals of North America, pp. 486, 498, 1857.

For remarks concerning the relations of this species with existing forms of *Neotoma*, See Rhoads, Mammals of Pennsylvania and New Jersey, p. 91, 1903.

The cotypes are as follows, all collected in the bone caves of Pennsylvania by Secretary S. F. Baird. The caves are undoubtedly those at Carlisle. The specimens were not entered in the Museum catalogue until October 24, 1872.

12206. Left half of mandible; complete, except for coronoid process.

12207. Right half of mandible; all molar teeth and angular process missing.

12208. Right half of mandible; last molar, angular, condyloid, and coronoid processes missing.

12209. Right half of mandible; all teeth, angular, condyloid, and coronoid processes missing.

12210. Left half of mandible; all molars, angular, coronoid, and condyloid processes missing.
12211. Middle portion of left half of mandible, containing last two molars and root of incisor.
12212. Left half of mandible; all the teeth, angular, condyloid, and coronoid processes missing.
12213. Anterior portion of right half of mandible, containing only the incisor.
12214. Fragment of left maxilla, containing the incisor.

Cotypes not designated by number. The above are the only specimens known in the Museum and are unquestionably the ones upon which Baird based his description.

**Neotoma martinensis** Goldman. Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, p. 28, February 2, 1905.

81074. Skin and skull. Adult female. San Martin Island, Lower California, Mexico. July 17, 1896. Collected by A. W. Anthony. Original number 39.

Well-made skin in good condition; skull perfect.

**Neotoma intermedia melanura** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., IX, pp. 126-127, July 2, 1894.

- $\frac{1}{4}\frac{8}{7}\frac{1}{5}\frac{9}{8}$ . Skin and skull. Young adult male. Ortiz, Sonora, Mexico. November 13, 1889. Collected by V. Bailey. Original number 671.

Well-made skin in good condition; skull perfect.

**Neotoma mexicana** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 333, this paper was favorably reported for publication April 24, 1855.

- $\frac{2}{1}\frac{8}{6}\frac{8}{7}\frac{9}{8}$ . Skin (lost) and skull. Adult. Near Chihuahua, Chihuahua, Mexico. Collected by John Potts. Skin catalogued July 6, 1854; skull, March 10, 1855.

Skull lacks posterior portion of braincase; otherwise perfect. Skin lost.

Type not designated by number. In the original description it is said; "Collected near Chihuahua by John Potts, esq." Reference to Baird's Mammals of North America, page 942, shows that no.  $\frac{2}{1}\frac{8}{6}\frac{8}{7}\frac{9}{8}$  is the only one to which that remark applies and it is thus regarded as the type. Unfortunately it was without a tail, and that is undoubtedly the reason why the measurements of another specimen, No. 565, are given in the original description.

**Neotoma micropus** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 333, this paper was favorably reported for publication April 24, 1855.

1676. Skull. Adult male. Charco Escondido, Tamaulipas, Mexico. March, 1853. Collected by Lieut. D. N. Couch, U. S. A. There

should be a skin, No. 554, but it can not be found. Catalogued March 10, 1855.

The skull lacks all four occipital bones, and the periotics and tympanics of each side; otherwise it is in good condition.

Type not designated by number, but by referring to Baird's Mammals of North America, 1857, page 493, it is seen that the measurements given in the original description apply to No. 554 only, with corresponding skull number 1676, which consequently is considered the type.

***Neotoma montezumæ* Goldman.** Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, p. 29, February 2, 1905.

81426. Skin and skull. Adult male. Zimapan, Hidalgo, Mexico. October 17, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 10275.

Well-made skin in good condition; right hind foot attached to body with wire; distal half of tail missing; skull perfect.

***Neotoma navus* Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, pp. 47-48, March 19, 1903.

116895. Skin and skull. Adult female. Sierra Guadalupe, Coahuila, Mexico. April 26, 1902. Collected by E. W. Nelson and E. A. Goldman. Original number 15130.

Well-made skin in good condition; skull perfect, except for absence of right coronoid process.

***Neotoma nelsoni* Goldman.** Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, pp. 29-30, February 2, 1905.

54320. Skin and skull. Adult female. Perote, Vera Cruz, Mexico. June 3, 1893. Collected by E. W. Nelson. Original number 4935.

Well-made skin in good condition; skull perfect.

***Neotoma nudicauda* Goldman.** Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, pp. 28-29, February 2, 1905.

79073. Skin and skull. Young adult female. Carmen Island, Lower California, Mexico. October 14, 1895. Collected by J. E. McLellan. Original number 1517.

Well-made skin in good condition; skull with vault of cranium mostly broken away; right audital bulla broken; right frontal with an irregular incision; right mandibular ramus lacking angular process; left ramus lacking coronoid and condyle.

***Neotoma occidentalis* Baird.**

Proc. Acad. Nat. Sci., VII, p. 335, this paper was favorably reported for publication April 24, 1855.

=*Neotoma cinerea occidentalis* (Baird). See Merriam, North Amer. Fauna, No. 5, July 30, 1891.

572. Skin, formerly mounted; no record of a skull. Adult male. Shoalwater Bay, Pierce County, Washington. 1854, probably June.

Collected by Dr. J. G. Cooper. Original number 16. Northern Pacific Railroad Survey, Governor I. I. Stevens. Catalogued March 14, 1855.

According to records, specimen has been mounted, but has been made into a well-made study skin which has the appearance of being considerably bleached and discolored by age and exposure. The ears are somewhat ragged, and a small spot on nose, another on crown, and one on throat have the hair and epidermis missing.

Type not designated by number. It is indicated as coming from Shoalwater Bay and collected by Doctor Cooper. In the original description the dimensions are "Head and body 10 inches. Tail vertebrae  $8\frac{1}{2}$  inches." By referring to Baird's Mammals of North America, page 497, where detailed measurements of the only three specimens from Shoalwater Bay are given, it is seen that the above figures belong to No. 572 only, which is therefore considered the type.

**Neotoma ferruginea ochracea** Goldman. Biological Survey coll.

Proc. Biol. Soc. Wash., XVIII, pp. 30-31, February 2, 1905.

$\frac{34143}{46215}$ . Skin and skull. Nearly adult male. Atemajac, near Guadaluajara, Jalisco, Mexico. May 21, 1892. Collected by E. W. Nelson. Original number 2653.

Well-made skin in good condition; skull perfect.

**Neotoma orizabæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, p. 122, July 2, 1894.

53653. Skin and skull. Adult male. Mount Orizaba, Puebla, Mexico. April 20, 1893. Collected by E. W. Nelson. Original number 4674.

Well-made skin in good condition; skull perfect, except for absence of last two right upper molars and last left lower molar; right audital bulla disarticulated.

**Neotoma orolestes** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, p. 128, July 2, 1894.

$\frac{33995}{43215}$ . Skin and skull. Adult male. Saguache Valley, 20 miles west of Saguache, Colorado. August 13, 1892. Collected by J. A. Loring. Original number 482.

Well-made skin in good condition; skull perfect.

**Neotoma palatina** Goldman. Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, pp. 27-28, February 2, 1905.

90959. Skin and skull. Adult male. Bolaños, Jalisco, Mexico. September 12, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11710.

Well-made skin in fair condition; distal three-fourths of tail missing; skull perfect.



**Neotoma parvidens** Goldman. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 81, March 21, 1904.

71586. Skin and skull. Adult female. Juquila, Oaxaca, Mexico. March 2, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7587.

Well-made skin in good condition; skull perfect, except for absence of first right lower molar, first right upper molar, first left upper molar, and last left upper molar; parietals fractured.

**Neotoma picta** Goldman. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 79-80, March 21, 1904.

70050. Skin and skull. Adult male. Mountains near Chilpancingo, Guerrero, Mexico. December 20, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 7179.

Well-made skin in good condition; skull perfect.

**Neotoma pinetorum** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VIII, pp. 111-112, July 31, 1893.

$\frac{3}{4} \frac{16}{16} \frac{23}{23}$ . Skin and skull. Adult female. San Francisco Mountain, Arizona. August 16, 1889. Collected by V. Bailey. Original number 366.

Well-made skin in good condition; skull perfect.

**Neotoma micropus planiceps** Goldman. Biological Survey coll.

Proc. Biol. Soc. Wash., XVIII, p. 32, February 2, 1905.

82105. Skin and skull. Adult male. Rio Verde, San Luis Potosi, Mexico. January 16, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10461.

Well-made skin in good condition; skull perfect, except for absence of last right upper molar.

**Neotoma saxamans** Osgood. Biological Survey collection.

North Amer. Fauna, No. 19, pp. 33-34, pl. 5, fig. 3, October 6, 1900.

38923. Skin and skull. Adult male. Bennett, British Columbia. June 19, 1899. Collected by W. H. Osgood. Original number 462.

Well-made skin in good condition; skull perfect, except for absence of last left upper molar.

**Neotoma macrotis simplex** True.

Diagnoses of Some Undescribed Wood Rats (Genus *Neotoma*) in the National Museum, p. 2, June 27, 1894. (Reprinted in Proc. U. S. Nat. Mus., XVII, No. 1006, p. 354, November 15, 1894.)

=*Neotoma fuscipes simplex* (True). See Miller and Rehn, Proc. Boston Soc. Nat. Hist., XXX, p. 105, December 27, 1901.

3857. Skin and skull. Adult male. Old Fort Tejon, in mountains south of Kern Lake, California. Collected by J. Xantus. Original number 788. Catalogued March 24, 1859.

Well-made skin in fair condition; skull perfect, except for a large piece of squamosal broken out on right side.

**Neotoma desertorum sola** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, p. 126, July 2, 1894.

3431. Skin and skull. Adult male. San Emigdio, Kern County, California. October 24, 1891. Collected by E. W. Nelson. Original number 1369.

Well-made skin in good condition; skull perfect except nasals, which are slightly fractured; angular process of left mandibular ramus broken.

Mr. E. A. Goldman informs us that the skin and the skull in this case are not properly associated, since they belong to different species.

**Neotoma ferruginea solitaria** Goldman. Biological Survey coll.

Proc. Biol. Soc. Wash., XVIII, p. 31, February 2, 1905.

76908. Skin and skull. Adult male. Nenton, Guatemala. December 17, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8813.

Well-made skin in good condition; skull perfect.

**Neotoma splendens** True.

Diagnoses of Some Undescribed Wood Rats (Genus *Neotoma*) in the National Museum, p. 1, June 27, 1894. (Reprinted in Proc. U. S. Nat. Mus., XVII, No. 1006, p. 353, November 15, 1894.)

19693. Skin; no record of a skull. Adult male. Marin County, California. November 25, 1887. Purchased from C. K. Worthen. Original number 211. Catalogued September 4, 1891.

Well-made skin in good condition.

**Neotoma stephensi** Goldman. Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, pp. 32-33, February 2, 1905.

117466. Skin and skull. Adult female. Hualpai Mountains, Arizona. July 1, 1902. Collected by F. Stephens. Original number 4192.

Well-made skin in good condition; skull perfect.

**Neotoma fuscipes streatori** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., IX, p. 124, July 2, 1894.

64439. Skin and skull. Adult male. Carbondale, Amador County, California. April 4, 1894. Collected by C. P. Streator. Original number 3685.

Well-made skin in good condition; skull perfect.

**Neotoma tenuicauda** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 169-170, September 29, 1892.

23494. Skin and skull. Adult male. North slope Sierra Nevada de Colima, Jalisco, Mexico; altitude 12,000 feet. April 13, 1892. Collected by E. W. Nelson. Original number 2446.

Well-made skin in good condition; skull perfect, except for broken right zygoma.

**Neotoma tropicalis** Goldman. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 81-82, March 21, 1904.

68593. Skin and skull. Adult male. Totontepec, Oaxaca, Mexico. July 17, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6468.

Well-made skin in good condition, but with a bare spot on rump; skull perfect, except for absence of last right upper molar and left upper incisor.

**Neotoma venusta** True.

Diagnoses of Some Undescribed Wood Rats (Genus *Neotoma*) in the National Museum, p. 2, June 27, 1894. (Reprinted in Proc. U. S. Nat. Mus., XVII, No. 1006, p. 354, November 15, 1894.)

31200. Skin and skull. Adult male. Carrizo Creek, San Diego County, California. November 30, 1891. Collected by F. Stephens. Original number 1800. Purchased from C. K. Worthen. Catalogued November 11, 1893.

Well-made skin in good condition; skull perfect.

**Neotoma albigula warreni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XXI, pp. 143-144, June 9, 1908.

151051. Skin and skull. Adult male. Gaumes Ranch, Baca County, Colorado. November 28, 1907. Collected by M. Cary. Original number 1271.

Well-made skin in good condition; skull perfect.

**Neotoma leucodon zacatecæ** Goldman. Biological Survey coll.

Proc. Biol. Soc. Wash., XVIII, p. 30, February 2, 1905.

90957. Skin and skull. Adult female. Plateado, Zacatecas, Mexico. September 4, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11641.

Well-made skin in good condition; skull lacking last left lower molar, right auditory bulla, pterygoids, and adjacent parts of brain case; basisphenoid disarticulated; processes of mandibular rami mostly broken away; zygomata broken.

Genus **HODOMYS**.**Neotoma alleni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 168-169, September 29, 1892.

=*Hodomys alleni* (Merriam). See Merriam, Proc. Acad. Nat. Sci. Phila., 1894, p. 235, September 24, 1894.

$\frac{33}{44} \frac{79}{83}$ . Skin and skull. Adult male. Manzanillo, Colima, Mexico. January 26, 1892. Collected by E. W. Nelson. Original number 1796.

Well-made skin in good condition; skull perfect.

**Hodomys vetulus** Merriam. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1894, pp. 236-237, figs. 3c-3d, September 24, 1894.

53656. Skin and skull. Adult male. Tehuacan, Puebla, Mexico. May 8, 1893. Collected by E. W. Nelson. Original number 4784.

Well-made skin in good condition; skull perfect, except for broken zygomata, left coronoid, and disarticulated left audital bulla.

#### Genus TEANOPUS.

**Teanopus phenax** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, p. 81, May 29, 1903.

95841. Skin and skull. Adult female. Camoa, Rio Mayo, Sonora, Mexico. November 4, 1898. Collected by E. A. Goldman. Original number 13258.

Well-made skin in good condition; skull perfect.

#### Genus XENOMYS.

**Xenomys nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 161-163, September 29, 1892.

$\frac{33}{44} \frac{79}{83}$ . Skin and skull. Adult male. Hacienda Magdalena, Colima, Mexico. March 21, 1892. Collected by E. W. Nelson. Original number 2288.

Well-made skin in good condition; skull perfect.

#### Genus NELSONIA.

**Nelsonia goldmani** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, p. 80, May 29, 1903.

125818. Skin and skull. Adult male. Mount Tancitaro, Michoacan, Mexico. February 25, 1903. Collected by E. W. Nelson and E. A. Goldman. Original number 16021.

Well-made skin in good condition; skull perfect, except for slightly injured right auditory meatus.

**Nelsonia neotomodon** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 278-279, figs 14-15, December 17, 1897.

90891. Skin and skull. Adult male. Mountains near Plateado, Zacatecas, Mexico. September 3, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11625.

Well-made skin in good condition; skull perfect.

## Genus NEOTOMODON.

**Neotomodon alstoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 128, April 30, 1898.

50534. Skin and skull. Old male. Nahuatzin, Michoacan, Mexico. October 12, 1892. Collected by E. W. Nelson. Original number 3580.

Well-made skin in good condition; skull perfect.

**Neotomodon orizabæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 129, April 30, 1898.

53486. Skin and skull. Old male. Mount Orizaba, Puebla, Mexico. April 26, 1893. Collected by E. W. Nelson. Original number 4747.

Well-made skin in good condition; skull with mastoid and audital bullæ disarticulated; last right upper molar missing.

**Neotomodon perotensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 129, April 30, 1898.

54398. Skin and skull. Adult female. Cofre de Perote, Vera Cruz, Mexico. May 29, 1893. Collected by E. W. Nelson. Original number 4897.

Well-made skin in good condition; skull perfect, except for broken right zygoma and right parietal.

## Genus SIGMODON.

**Sigmodon alleni** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 112-113, June 2, 1902.

88227. Skin and skull. Adult male. San Sebastian, Jalisco, Mexico. March 15, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10708.

Well-made skin in good condition; skull perfect.

**Sigmodon alticola** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 116, June 2, 1902.

68231. Skin and skull. Adult male. Cerro San Felipe, Oaxaca, Mexico. August 24, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6624.

Well-made skin in good condition; skull perfect, except for broken left audital bulla.

**Sigmodon alticola amoles** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 116, June 2, 1902.

81430. Skin and skull. Adult male. Pinal de Amoles, Queretaro, Mexico. September 18, 1896 (not 1898, as in original description). Collected by E. W. Nelson and E. A. Goldman. Original number 10161.

Well-made skin in good condition, but ears badly damaged by insects; skull with basisphenoid and pterygoid region absent; right zygoma broken; right mandibular condyle, coronoid, and angular processes absent.

**Sigmodon berlandieri Baird.**

Proc. Acad. Nat. Sci. Phila., VII, p. 333, this paper was reported favorably for publication April 24, 1855.

=**Sigmodon hispidus berlandieri** (Baird). See Bailey, Proc. Biol. Soc. Wash., XV, p. 106, June 2, 1902.

<sup>566</sup>/<sub>1687</sub>. Skin (lost) and skull. Adult female. Rio Nasas, Coahuila, Mexico. 1853. Collected by Lieut. D. N. Couch, U. S. A. Catalogued March 14, 1855.

The Museum catalogue records that the skin was taken out of alcohol, and that the body is still in alcohol, but neither skin nor body can now be found, and only the injured skull is present. Right zygoma and practically all of the occipital bones and a portion of the right parietal broken away. Right tympanic and periotic are present, but detached from the rest of the skull.

Type not designated by number in the original description, but by referring to Baird's Mammals of North America, page 505, it is seen that the description is based upon the present specimen, designated by number 566. Also see Bailey, *loc. cit.*, page 107.

**Sigmodon hispidus eremicus Mearns.**

Preliminary Diagnoses of New Mammals of the Genera *Sciurus*, *Castor*, *Neotoma*, and *Sigmodon*, from the Mexican Border of the United States, p. 4, March 5, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1132, p. 504, January 19, 1898.)

60319. Skin and skull. Adult male. Cienega well, 30 miles south of monument No. 204, Mexican boundary line, on the left bank of the Colorado River, in Sonora, Mexico. March 24, 1894. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 3367. International Boundary Commission. Catalogued May 8, 1894.

Well-made skin in good condition; skull perfect.

**Sigmodon leucotis Bailey.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 115, June 2, 1902.

92001. Skin and skull. Adult female. Valparaiso Mountains, Zacatecas, Mexico. December 2, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11812.

Well-made skin in good condition; skull perfect.

**Sigmodon hispidus major Bailey.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 109-110, June 2, 1902.

96275. Skin and skull. Adult male. Sierra de Choix, 50 miles northeast of Choix, Sinaloa, Mexico. October 20, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 13154.

Well-made skin in good condition; skull perfect.

**Sigmodon melanotis** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 114, June 2, 1902.

50190. Skin and skull. Adult female. Patzcuaro, Michoacan, Mexico. July 15, 1892. Collected by E. W. Nelson. Original number 2834.

Well-made skin in good condition; skull perfect, except for absence of right angular process of mandible and broken right zygoma.

**Sigmodon hispidus microdon** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 111-112, June 2, 1902.

108467. Skin and skull. Adult male. Puerto Morelos, Yucatan, Mexico. March 13, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14581

Well-made skin in good condition; skull perfect.

**Sigmodon minimus** Mearns.

Proc. U. S. Nat. Mus., XVII, No. 994, p. 130, July 19, 1894.

$\frac{2}{3} \frac{11}{7} \frac{8}{2} \frac{1}{9}$ . Skin and skull. Adult male. "From upper corner monument, New Mexico, on the Mexican boundary line 100 miles west of the initial monument on the west bank of the Rio Grande" (monument No. 40, 100 miles west of El Paso, Texas). April 26, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1704. International Boundary Commission. Skin catalogued August 30, 1893; skull, January 5, 1897.

Fairly well made skin in good condition; extreme tip of tail missing and belly a little soiled and torn. Skull has right zygomatic arch completely missing; pterygo-palatal region and both angular processes of mandible somewhat injured.

**Sigmodon ochrognathus** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 115, June 2, 1902.

110333. Skin and skull. Adult female. Chisos Mountains, Texas. June 13, 1901. Collected by V. Bailey. Original number 7681.

Well-made skin in good condition, but right ear imperfect; skull perfect.

**Sigmodon hispidus pallidus** Mearns.

Preliminary Diagnoses of New Mammals of the Genera *Sciurus*, *Castor*, *Neotoma*, and *Sigmodon* from the Mexican Border of the United States, p. 4, March 5, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1132, p. 504, January 18, 1898.)

$\frac{2}{3} \frac{0}{5} \frac{1}{4} \frac{0}{6} \frac{3}{1}$ . Skin and skull. Adult male. "From the left bank of the Rio Grande about 6 miles above El Paso, Texas, and opposite the initial monument of the Mexican boundary." February 19, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1461. International Boundary Commission. Catalogued April 28, 1892.

Well-made skin in good condition; skull with posterior half of cranial cavity broken away, though many fragments are present.

**Sigmodon hispidus saturatus** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 111, June 2, 1902.

99998. Skin and skull. Adult male. Teapa, Tabasco, Mexico. April 5, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14108.

Well-made skin in good condition; skull perfect, except for absence of last right lower molar and slight perforation of right audital bulla.

**Sigmodon hispidus tonalensis** Bailey. Biological Survey collection.

Proc. Biol. Soc. Wash., XV., p. 109, June 2, 1902.

75144. Skin and skull. Adult male. Tonalá, Chiapas, Mexico. August 9, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8312.

Well-made skin in good condition; skull perfect.

## Genus REITHRODONTOMYS.

**Reithrodontomys albescens** Cary. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, pp. 53-54, May 6, 1903.

116358. Skin and skull. Adult male. Eighteen miles northwest of Kennedy, Nebraska. October 31, 1901. Collected by M. Cary. Original number 411 (3+31x).

Well-made skin in good condition; skull perfect.

**Reithrodontomys microdon albilabris** Merriam. Biol. Survey coll.

Proc. Wash. Acad. Sci., III, p. 549, November 29, 1901.

68393. Skin and skull. Adult female. Cerro San Felipe, Oaxaca, Mexico. August 25, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6629.

Well-made skin in good condition; skull perfect.

**Reithrodontomys saturatus alticolus** Merriam. Biol. Survey coll.

Proc. Wash. Acad. Sci., III, p. 556, November 29, 1901.

68392. Skin and skull. Old male. Cerro San Felipe, Oaxaca, Mexico. August 24, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6623.

Well-made skin in good condition; skull perfect, except for broken right zygoma.

**Reithrodontomys mexicanus aurantius** Allen. Biol. Survey coll.

Bull. Amer. Mus. Nat. Hist., VII, pp. 115, 137-138, May 20, 1895.

43863. Skin and skull. Adult male. Lafayette, Louisiana. May 24, 1892. Collected by R. J. Thompson. Original number 174.

Well-made skin in good condition; skull perfect, except for broken zygomata.



**Reithrodontomys tenuirostris aureus** Merriam. Biol. Survey coll.

Proc. Wash. Acad. Sci., III, p. 548, November 29, 1901.

76939. Skin and skull. Adult female. Calel, Guatemala. January 15, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9140.

Well-made skin in good condition; skull perfect.

**Reithrodontomys chrysopsis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XIII, p. 152, June 13, 1900.

52031. Skin and skull. Adult male. Mount Popocatepetl, Mexico. February 25, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 4405.

Well-made skin in good condition; skull perfect.

**Reithrodontomys saturatus cinereus** Merriam. Biol. Survey coll.

Proc. Wash. Acad. Sci., III, p. 556, November 29, 1901.

53623. Skin and skull. Adult male. Chalchicomula, Puebla, Mexico. April 13, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 4659.

Well-made skin in good condition; skull perfect.

**Reithrodontomys colimæ** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 551, November 29, 1901.

33971. Skin and skull. Adult male. Sierra Nevada de Colima, Jalisco, Mexico; altitude 12,000 feet. April 13, 1892 (not April 21, 1892, as in original description). Collected by E. W. Nelson and E. A. Goldman. Original number 2447.

Well-made skin in good condition; skull perfect.

**Reithrodontomys megalotis deserti** Allen. Biological Survey coll.

Bull. Amer. Mus. Nat. Hist., VII, pp. 114, 127-129, May 20, 1895.

33819. Skin and skull. Adult female. Oasis Valley, Nye County, Nevada. March 16, 1891. Collected by F. Stephens. Original number 149.

Well-made skin in good condition; skull lacking left half of brain case, including audital bulla.

**Reithrodontomys difficilis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 556, November 29, 1901.

63735. Skin and skull. Adult male. Orizaba, Vera Cruz, Mexico. February 20, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5868.

Well-made skin in good condition; skull perfect.

**Reithrodontomys dorsalis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 557, November 29, 1901.

77009. Skin and skull. Adult male. Calel, Guatemala. January 14, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9112.

Well-made skin in good condition, but tip of tail absent; skull perfect, except for absence of angular processes of mandible.

**Reithrodontomys goldmani** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 552-553, November 29, 1901.

93096. Skin and skull. Adult female. Metlatoyuca, Puebla, Mexico. February 12, 1898. Collected by E. A. Goldman. Original number 12153.

Well-made skin in good condition; skull perfect.

**Reithrodontomys griseoflavus** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, pp. 553-554, November 29, 1901.

82196. Skin and skull. Adult male. Ameca, Jalisco, Mexico. February 9, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10501.

Well-made skin in good condition; skull perfect.

**Reithrodontomys griseus** Bailey. Biological Survey collection.

North Amer. Fauna, No. 25, pp. 106-107, October 24, 1905.

87852. Skin and skull. Adult male. San Antonio, Texas. March 4, 1897. Collected by H. P. Attwater. Original number 1068 (371x).

Well-made skin in good condition; skull perfect.

**Reithrodontomys griseoflavus helvolus** Merriam. Biol. Survey coll.

Proc. Wash. Acad. Sci., III, p. 554, November 29, 1901.

68387. Skin and skull. Adult female. Oaxaca, Oaxaca, Mexico. August 14, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6576.

Well-made skin in good condition; skull perfect.

**Reithrodontomys hirsutus** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 553, November 29, 1901.

82200. Skin and skull. Old male. Ameca, Jalisco, Mexico. February 15, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10537.

Well-made skin in good condition; skull perfect.

**Reithrodontomys costaricensis jalapæ** Merriam.

Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 552, November 29, 1901.

108538. Skin and skull. Adult male. Jalapa, Vera Cruz, Mexico. May 10, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14712.

Well-made skin in good condition; skull perfect.

**Reithrodontomys klamathensis** Merriam. Biological Survey coll.

North. Amer. Fauna, No. 16, p. 93, 1899.

95444. Skin and skull. Adult male. Big Spring (or Mayten), Shasta Valley, California. September 18, 1898. Collected by W. H. Osgood. Original number 281.

Well-made skin in good condition; skull perfect.

**Reithrodontomys levipes** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 554-555, November 29, 1901.

88057. Skin and skull. Adult male. San Sebastian, Jalisco, Mexico. March 30, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10839.

Well-made skin in good condition; skull perfect.

**Reithrodon longicauda** Baird. Cotypes.

Mammals of North America, p. 451, 1857.

=**Reithrodontomys longicauda** (Baird). See Allen, Bull. Amer. Mus. Nat. Hist., VII, p. 129, May 21, 1895.

$\frac{1418}{2282}$ . Skin and skull. Female. Original number 231.

$\frac{1319}{2283}$ . Skin and skull. Male. Original number 232.

$\frac{1583}{2411}$ . Skin and skull. Male. Original number 239.

2581 to 2591, both inclusive, alcoholics.

All collected at Petaluma, California, by E. Samuels.  $\frac{1418}{2282}$ ,  $\frac{1319}{2283}$ , catalogued April 24, 1856;  $\frac{1583}{2411}$ , June 24, 1856; the alcoholics, April, 1857; 2582, 2584, and 2588 are recorded in the catalogue as "Distributed to C. E. Aiken, June, 1872."

Of these fourteen specimens all that can now be found is the skull of  $\frac{1418}{2282}$ . The supraoccipital bone has been broken away; the angular process of the left half of the mandible is broken off, and all the molars on the upper right-hand side are lost.

No type is designated and there is absolutely nothing by which any one of Baird's 15 specimens can be picked out as a type. Fourteen of the specimens came from Petaluma, California, and a single one from San Francisco. The former are regarded as cotypes and the type-locality fixed at Petaluma. (See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXX, p. 97, December 27, 1901.)

**Reithrodon megalotis** Baird.

Mammals of North America, p. 451, pl. 84, fig. 4, 1857.

=**Reithrodontomys megalotis** (Baird). See Allen, Bull. Amer. Mus. Nat. Hist., V, p. 79, April 23, 1893.

2281. Skull. Between Janos and San Luis Springs, State of Sonora, Mexico, near border of Grant County, New Mexico. Collected by Dr. C. B. Kennerly, under the command of Maj. W. H. Emory, U. S. A. Catalogued November, 1855.

Skull perfect except for loss of both malar bones. There should be a skin, No. 1039, which can not be found.

No type specified, but Baird's description is evidently based upon the above specimen, designated by number. The skull of the above is figured. He had one other specimen, an alcoholic, now lost. His brief diagnosis says, "Hind foot near .70." No. 1039, in the table of measurements, is put down as .68, while 1040, the alcoholic, is .50. Evidently the diagnosis was based on No. 1039. In Report United States and Mexican Boundary Survey, Part 2, page 43, 1859, No. 1039 is alone spoken of.

**Reithrodontomys merriami** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., VII, pp. 114, 119-120, May 20, 1895.

$\frac{32}{44} \frac{23}{35} \frac{32}{53}$ . Skin and skull. Adult male. Austin Bayou, near Alvin, Brazoria County, Texas. March 15, 1892. Collected by W. Lloyd. Original number 1162.

Well-made skin in good condition; skull lacking posterior half and entire underside of brain case.

**Reithrodontomys microdon** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 548-549, November 29, 1901.

76923. Skin and skull. Adult female. Todos Santos, Guatemala. December 31, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8977.

Well-made skin in good condition; skull perfect.

**Reithrodon montanus** Baird.

Proc. Acad. Nat. Sci., Phila., VII, p. 335, this paper was reported favorably for publication April 24, 1855.

=**Reithrodontomys montanus** (Baird). See Allen, Bull. Amer. Mus. Nat. Hist., V, p. 80, April 28, 1893.

$\frac{441}{1306}$ . Mounted skin, and skull. Near the upper end of the San Luis Valley, Saguache County, Colorado. August 29 or 30, 1853-54. Collected by Mr. Kreutzfeldt, on Capt. E. G. Beckwith's expedition from Westport, Missouri, to the Pacific coast in 1853-54. (These data are taken from J. A. Allen, Bull. Amer. Mus. Nat. Hist., VII, pp. 124 and 125, May 21, 1895.) Catalogued January 17, 1855.

Mounted skin in rather poor condition; body doubled up; both fore legs missing. Both hind legs present, but one is detached from the body; tail also detached, but present. Skull with both malars gone, a hole in the left parietal, and the right angular process of the mandible missing; otherwise in good condition.

Type not designated by number in the original description, but the single specimen is referred to by number in Baird's Mammals of North America, page 450.

**Reithrodontomys dychei nebrascensis** Allen. Biol. Survey coll.

Bull. Amer. Mus. Nat. Hist., VII, pp. 114, 122-123, May 20, 1895.

$\frac{18624}{25428}$ . Skin and skull. Adult male. Kennedy, Nebraska. April 19, 1890. Collected by V. Bailey. Original number 1042.

Well-made skin in good condition; skull perfect.

**Reithrodontomys colimæ nerterus** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, pp. 551-552, November 29, 1901.

$\frac{33680}{57150}$ . Skin and skull. Adult female. Foothill region of Sierra Nevada de Colima, Jalisco, Mexico; altitude, 6,500 feet. April 21, 1892. Collected by E. W. Nelson and E. A. Goldman. Original number 2514.

Well-made skin in good condition, but right hind foot nearly severed from skin; skull perfect.

**Reithrodontomys megalotis obscurus** Merriam. Biol. Survey coll.

Proc. Wash. Acad. Sci., III, p. 558, November 29, 1901.

95277. Skin and skull. Adult male. Sierra Madre, near Guadalupe y Calvo, Chihuahua, Mexico. August 26, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 12900.

Well-made skin in good condition; skull perfect.

**Reithrodontomys orizabæ** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 550-551, November 29, 1901.

53626. Skin and skull. Adult male. Mount Orizaba, Puebla, Mexico; altitude, 9,500 feet. April 24, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 4734.

Well-made skin in good condition; skull perfect.

**Reithrodontomys levipes otus** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 555, November 29, 1901.

$\frac{33670}{45705}$ . Skin and skull. Adult female. Foothill region of Sierra Nevada de Colima, Jalisco, Mexico; altitude 6,500 feet. April 11, 1892. Collected by E. W. Nelson and E. A. Goldman. Original number 2439.

Well-made skin in good condition; skull perfect.

**Reithrodontomys perotensis** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 550, November 29, 1901.

54424. Skin and skull. Adult male. Cofre de Perote, Vera Cruz, Mexico. May 31, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 4912.

Well-made skin in good condition; skull perfect.

**Reithrodontomys tenuirostris** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, pp. 547-548, November 29, 1901.

76919. Skin and skull. Adult male. Todos Santos, Guatemala. December 29, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8917.

Well-made skin in good condition; skull perfect.

**Reithrodontomys levipes toltecus** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, pp. 555-556, November 29, 1901.

50746. Skin and skull. Adult female. Tlalpam, Federal District, Mexico. December 1, 1892. Collected by E. W. Nelson and E. A. Goldman. Original number 3935.

Well-made skin in good condition; skull perfect.

**Reithrodontomys chrysopsis tolucaë** Merriam. Biol. Survey coll.

Proc. Wash. Acad. Sci., III, p. 549, November 29, 1901.

55895. Skin and skull. Adult female. North slope Volcan Toluca, Mexico, Mexico; altitude 11,500 feet. September 10, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 5454.

Well-made skin in good condition; skull perfect.

**Reithrodontomys megalotis zacatecæ** Merriam. Biol. Survey coll.

Proc. Wash. Acad. Sci., III, p. 557, November 29, 1901.

91910. Skin and skull. Adult female. Valparaiso Mountains, Zacatecas, Mexico. December 6, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11859.

Well-made skin in good condition; skull perfect, except for broken zygomata.

## Genus ORYZOMYS.

**Oryzomys albiventer** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 279-280, July 26, 1901.

82236. Skin and skull. Adult male. Ameca, Jalisco, Mexico. February 6, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10478.

Well-made skin in good condition; skull perfect, except for broken right mandibular ramus.

**Oryzomys angusticeps** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 292, July 26, 1901.

76816. Skin and skull. Adult male. Volcan Santa Maria, Guatemala. January 22, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9190.

Well-made skin in good condition; skull perfect, except for absence of left auditory bulla.

**Oryzomys crinitus aztecus** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 282-283, July 26, 1901.

51173. Skin and skull. Adult male. Yautepec, Morelos, Mexico. January 16, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 4290.

Well-made skin in good condition; skull perfect, except for broken upper incisors and interorbital region.

**Oryzomys chapmani caudatus** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 289, July 26, 1901.

68641. Skin and skull. Adult male. Comaltepec, Oaxaca, Mexico. July 31, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6516.

Well-made skin in good condition; skull perfect.

**Oryzomys cozumelæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, pp. 103-104, July 19, 1901.

108462. Skin and skull. Adult male. Cozumel Island, Yucatan, Mexico. April 8, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14666.

Well-made skin in good condition; skull perfect.

**Oryzomys crinitus** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 281-282, July 26, 1901.

50182. Skin and skull. Adult male. Talpam, Federal District, Mexico. November 30, 1892. Collected by E. W. Nelson and E. A. Goldman. Original number 3905.

Well-made skin in good condition; skull perfect.

**Oryzomys chapmani diluitor** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 290, July 26, 1901.

93124. Skin and skull. Adult male. Huauchinango, Puebla, Mexico. January 10, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 12040.

Well-made skin in good condition; skull perfect.

**Oryzomys natator floridanus** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 277, July 26, 1901.

=*Oryzomys palustris coloratus* (Bangs). See Rhoads, Amer. Nat., XXXVI, p. 663, August, 1902.

71349. Skin and skull. Adult male. Everglade, Monroe County, Florida. March 29, 1895. Collected by J. A. Loring. Original number 2819.

Well-made skin in good condition; skull perfect, except for absence of last upper molars and last two right lower molars.

**Oryzomys goldmani** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 288-289, July 26, 1901.

78110. Skin and skull. Adult female. Coatzacoalcos, Vera Cruz, Mexico. April 11, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9511.

Well-made skin in good condition; skull perfect.

**Oryzomys hylocetes** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 291, July 26, 1901.

77605. Skin and skull. Old male. Chicharras, Chiapas, Mexico. February 14, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9306.

Well-made skin in good condition; skull perfect.

**Oryzomys medius** Robinson and Lyon.

Proc. U. S. Nat. Mus., XXIV, No. 1246, p. 142, October 3, 1901.

105405. Skin and skull. Young adult male. San Julian, 8 miles east of La Guaira, Venezuela. August 8, 1900. Collected by Maj. Wirt Robinson, U. S. A. Original number 1655. Catalogued May 8, 1901.

Well-made skin in good condition, except for small loss of hair on nape; skull perfect.

**Oryzomys rostratus megadon** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 294, July 26, 1901.

99978. Skin and skull. Old male. Teapa, Tabasco, Mexico. March 24, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14062.

Well-made skin in good condition; skull perfect, except for absence of angular process of right mandibular ramus.

**Oryzomys nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 15, January 27, 1898.

89200. Skin and skull. Adult male. Maria Madre Island, Tres Marias Islands, Mexico. May 13, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11022.

Well-made skin in good condition; skull perfect.

**Oryzomys palatinus** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 290-291, July 26, 1901.

99977. Skin and skull. Adult female. Teapa, Tabasco, Mexico. April 1, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14080.

Well-made skin in good condition; skull perfect, except for absence of last right upper molar and left occipital condyle.



- Oryzomys mexicanus peragrus** Merriam. Biological Survey coll.  
Proc. Wash. Acad. Sci., III, pp. 283-284, July 26, 1901.
82119. Skin and skull. Young adult male. Rio Verde, San Luis Potosi, Mexico. January 8, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10398.  
Well-made skin in good condition; skull perfect.
- Mus peruvianus** Peale. See page 289.
- Oryzomys rhabdops** Merriam. Biological Survey collection.  
Proc. Wash. Acad. Sci., III, pp. 291-292, July 26, 1901.
76813. Skin and skull. Adult male. Cael, Guatemala. January 15, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9135.  
Well-made skin in good condition; skull perfect.
- Oryzomys richmondi** Merriam. Biological Survey collection.  
Proc. Wash. Acad. Sci., III, p. 284, July 26, 1901.
- $\frac{3}{4} \frac{6}{8} \frac{3}{7} \frac{4}{0}$ . Skin and skull. Adult male. Escondido River, 50 miles above Bluefields, Nicaragua. June 21, 1892. Collected by Dr. C. W. Richmond. Original number 63.  
Well-made skin in good condition; skull perfect.
- Oryzomys rostratus** Merriam. Biological Survey collection.  
Proc. Wash. Acad. Sci., III, pp. 293-294, July 26, 1901.
93112. Skin and skull. Old male. Metlatoyuca, Puebla, Mexico. February 5, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 12130.  
Well-made skin in good condition; skull perfect.
- Oryzomys jalapæ rufinus** Merriam. Biological Survey collection.  
Proc. Wash. Acad. Sci., III, p. 285, July 26, 1901.
65499. Skin and skull. Adult female. Catemaco, Vera Cruz, Mexico. April 27, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6112.  
Well-made skin in good condition; skull perfect.
- Oryzomys rufus** Merriam. Biological Survey collection.  
Proc. Wash. Acad. Sci., III, p. 287, July 26, 1901.
91404. Skin and skull. Old female. Santiago, Tepic, Mexico. June 20, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11232.  
Well-made skin in good condition; skull perfect, except for absence of last two left upper molars and of basisphenoid and pterygoid processes, and injured squamosal and supraoccipital.

**Oryzomys chapmani saturator** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 290, July 26, 1901.

76183. Skin and skull. Adult female. Tumbala, Chiapas, Mexico. October 23, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8574.

Well-made skin in good condition; skull perfect, except for absence of angular processes of mandible.

**Oryzomys talamancæ** Allen.

Proc. U. S. Nat. Mus., XIV, No. 850, p. 193, July 24, 1891.

$1\frac{2}{3}$  $\frac{2}{7}$  $\frac{2}{1}$  $\frac{2}{2}$ . Skin and skull. Adult male. Talamanca, Costa Rica. 1874. Collected by Prof. W. M. Gabb. Original number 99. Catalogued November 19, 1874.

Specimen in good state of preservation; in February, 1902, made into a fair study skin. Left hind leg missing; tail not skinned out and from 2 to 3 cm. of the tip without epidermis. Skull nearly perfect. Pterygoids injured, and angular and coronoid processes of right half of mandible broken. In the original description Dr. Allen remarks there is no lower jaw. The present lower jaw was found in the same vial with the rest of the skull. It was not numbered, however, so there is some doubt as to its belonging to the specimen.

**Oryzomys teapensis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 286, July 26, 1901.

99973. Skin and skull. Young adult male. Teapa, Tabasco, Mexico. April 4, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14100.

Well-made skin in good condition; skull perfect, except for absence of left occipital condyle.

**Oryzomys yucatanensis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 294-295, July 26, 1901.

108139. Skin and skull. Young adult male. Chichenitza, Yucatan, Mexico. February 9, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14527.

Well-made skin in good condition; skull perfect.

**Oryzomys zygomaticus** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 285-286, July 26, 1901.

76794. Skin and skull. Adult male. Nenton, Guatemala. December 15, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8798.

Well-made skin in good condition; skull perfect.

Genus **ONYCHOMYS**.**Onychomys leucogaster albescens** Merriam. Biol. Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 124-125, June 9, 1904.

50040. Skin and skull. Adult female. Samalayuca, Chihuahua, Mexico. December 12, 1892. Collected by C. P. Streater. Original number 2399.

Well-made skin in good condition; skull perfect.

**Onychomys torridus arenicola** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 3, May 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XIX, No. 1103, p. 139, December 21, 1896.)

$\frac{30}{30} \frac{20}{20} \frac{11}{11}$ . Skin and skull. Adult male. Rio Grande, about 6 miles above El Paso, Texas. February 29, 1896. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1528. International Boundary Commission. Catalogued April 28, 1892.

Well-made skin in good condition; skull perfect.

**Onychomys leucogaster brevicaudus** Merriam. Biol. Survey coll.

North Amer. Fauna, No. 5, pp. 52-53, fig. 2, July 30, 1891.

$\frac{30}{30} \frac{20}{20} \frac{11}{11}$ . Skin and skull. Adult male. Blackfoot, Bingham County, Idaho. July 15, 1890. Collected by V. Bailey and Dr. B. H. Dutcher, U. S. A. Original number 1442.

Well-made skin in good condition; skull lacking basioccipital, supraoccipital, interparietal, and part of parietals.

**Onychomys torridus canus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 124, June 9, 1904.

90843. Skin and skull. Adult female. San Juan Capistrano, Zacatecas, Mexico. August 23, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11574.

Well-made skin in good condition, except for bare patch on abdomen; skull perfect.

**Onychomys fuliginosus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 3, pp. 59-61, September 4, 1890.

$\frac{17}{17} \frac{22}{22} \frac{11}{11}$ . Skin and skull. Adult female. Black Tank lava beds, north-east of San Francisco Mountain, Arizona. September 27, 1889. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 547.

Well-made skin in good condition; skull perfect.

**Onychomys torridus perpallidus** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 4, May 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XIX, No. 1103, p. 140, December 21, 1896.)

60174. Skin and skull. Adult female. Left bank of the Colorado River, at monument 204, Mexican boundary line. March 27, 1894. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 3301. International Boundary Commission. Catalogued May 7, 1894.

Well-made skin in good condition; skull perfect, except for piece out of left zygoma.

**Hesperomys (Onychomys) torridus Coues.**

Proc. Acad. Nat. Sci. Phila., 1874, p. 183, December 15, 1874.

=*Onychomys torridus* (Coues). See Merriam, North Amer. Fauna, No. 2, p. 3, October 30, 1889.

9886. Skin without skull. Camp Grant, Graham County, Arizona. June 10, 1867. Collected by Dr. E. Palmer. Catalogued January, 1872.

Skin taken out of alcohol (according to Coues), well preserved, but poorly made up. No record of a skull.

**Onychomys torridus tularensis Merriam.** Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, p. 123, June 9, 1904.

$\frac{29711}{41788}$ . Skin and skull. Adult female. Bakersfield, California. July 19, 1891. Collected by Dr. A. K. Fisher. Original number 792.

Well-made skin in good condition; skull perfect.

**Onychomys torridus yakiensis Merriam.** Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, p. 124, June 9, 1904.

95855. Skin and skull. Adult female. Camoa, Rio Mayo, Sonora, Mexico. October 28, 1898. Collected by E. A. Goldman. Original number 13158.

Well-made skin in good condition; skull perfect, except for absence of last right upper molar; audital bullæ each with a large perforation.

Genus PEROMYSCUS.

**Hesperomys (Vesperimus) affinis Allen.**

Proc. U. S. Nat. Mus., XIV, No. 850, p. 195, July 24, 1891.

=*Peromyscus affinis* (Allen). See Allen and Chapman, Bull. Amer. Mus. Nat. Hist., IX, p. 7, February 23, 1897.

$\frac{3388}{4488}$ . Skin and skull (latter lost). Adult female. Barrio, Tehautepec, Mexico. October 30, 1868. Collected by Prof. F. Sumichrast. Original number 23. Catalogued April 10, 1869.

Skin fairly well preserved, rather poorly made up; tail not skinned out; right foot present, but broken off from body. Skull can not be found.

Type designated by number. In the description the figures read 7382, but it is an error for 9382.

**Peromyscus allex** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 76-77, March 21, 1904.

$\begin{smallmatrix} 3 & 3 & 4 & 2 & 9 \\ 4 & 5 & 4 & 5 & 2 \end{smallmatrix}$ . Skin and skull. Adult female. Colima, Colima, Mexico. March 7, 1892. Collected by E. W. Nelson. Original number 2029.

Well-made skin in good condition; skull perfect.

**Peromyscus allophylus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 71, March 21, 1904.

77657. Skin and skull. Adult female. Huehuetan, Chiapas, Mexico. February 21, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9352.

Well-made skin in good condition; skull perfect.

**Peromyscus atilaneus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 74-75, March 21, 1904.

76856. Skin and skull. Adult male. Todos Santos, Guatemala. December 30, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8942.

Well-made skin in good condition; skull perfect.

**Peromyscus amplus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 62-63, March 21, 1904.

70158. Skin and skull. Adult female. Coixtlahuaca, Oaxaca, Mexico. November 12, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 7033.

Well-made skin in good condition; skull perfect.

**Peromyscus banderanus angelensis** Osgood. Biol. Survey coll.

Proc. Biol. Soc. Wash., XVII, p. 69, March 21, 1904.

71442. Skin and skull. Adult female. Puerto Angel, Oaxaca, Mexico. March 13, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7642.

Well-made skin in good condition; skull perfect.

**Peromyscus eremicus arenarius** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 2, May 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XIX, No. 1103, p. 138, December 21, 1896.)

$\begin{smallmatrix} 2 & 0 & 0 & 1 & 8 \\ 5 & 5 & 4 & 1 & 3 \end{smallmatrix}$ . Skin and skull. Adult male. Rio Grande, about 6 miles from El Paso, Texas. February 25, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1513. International Boundary Commission. Catalogued April 28, 1892.

Well-made skin in good condition; skull perfect.

**Peromyscus auritus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 119-120, April 30, 1898.

68438. Skin and skull. Old female. Mountains 15 miles west of Oaxaca, Oaxaca, Mexico. September 17, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6795.

Well-made skin in good condition; skull perfect.

**Hesperomys austerus** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 336, this paper was reported favorably for publication April 24, 1855.

= *Peromyscus austerus* (Baird). See Bangs, Amer. Nat., XXXI, p. 75, January, 1897.

<sup>1 2 7 8</sup>/<sub>3 6 4</sub>. Skin (lost) and skull. Young adult. Steilacoom, Washington. Probably January 20, 1854. Collected by Dr. George Suckley. Catalogued January 4, 1855.

Skin said to have been mounted; can not be found. Skull much broken; most of mandible present, and most of rostrum, both the upper tooth rows, and a small portion of the cranium. Parts of the skull have a charred appearance.

No type designated. Baird (Mammals of North America, p. 467, 1857) lists 8 specimens as positively *austerus*: No. 229 from Spokane Plain, and nos. 363, 364, 365, 371, 916, 1964 and 2576 from Steilacoom, Washington. Since Steilacoom is the first locality mentioned in the original description, and since seven-eighths of the specimens came from there, Steilacoom should be chosen as the type-locality. (See Allen, Bull. Amer. Mus. Nat. Hist., V, 1893, p. 192.) Miller and Rehn (Proc. Boston Soc. Nat. Hist., XXX, p. 69, December 27, 1901) erroneously give Spokane Plain as the type-locality. Of the specimens coming from Steilacoom only the first four were catalogued at the time the original description appeared. The other three were catalogued later in the same year or in the next year. Evidently they were not in Baird's hands when the original description was prepared and they can not be considered as part of the original material. The first four may properly be considered as the original material. Of these no. 364, as measured by Baird in 1857, agrees very closely (hind foot identical) with the measurements given in the original description and may be chosen as the type. All of these four specimens are represented in the collection by imperfect skulls only. The skins are said to have been mounted. They could not be found in 1893. (See Allen, *loc. cit.*)

No. 1964 bears one of Dr. Coues's labels marked "Type of *H. austerus* Baird = *leucopus*," in what is evidently Dr. Coues's handwriting. In Table 16 on page 74, Monographs of North American Rodentia, 1877, Dr. Coues gives no. 1964 as "typical of '*austerus*.'" As this specimen was collected after the original description appeared, it obviously can not be considered the type.

**Peromyscus yucatanicus badius** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 70-71, March 21, 1904.

108016. Skin and skull. Adult female. Apazote, Campeche, Mexico. December 28, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14377.

Well-made skin in good condition; skull perfect.

**Peromyscus sonoriensis blandus** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, p. 56, March 21, 1904.

57635. Skin and skull. Adult female. Escalon, Chihuahua, Mexico. November 27, 1893. Collected by E. A. Goldman. Original number 166.

Well-made skin in good condition; skull perfect.

**Hesperomys boylii** Baird.

Proc. Acad. Nat. Sci., Phila., VII, p. 335, this paper was reported favorably for publication April 24, 1855.

= *Peromyscus boylii* (Baird). See Mearns, Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 3, May 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XIX, No. 1130, p. 139, December 21, 1896.)

1270<sup>356</sup>. Mounted skin, and skull and tail vertebræ. Along the middle fork of the American River, between Placer and Eldorado counties, California. Collected by Dr. C. C. Boyle. Skin catalogued January 4, 1855; skull, December 20, 1854.

Skin mounted and in wretched condition; skull complete except for the right malar and most of the left zygomatic arch.

Type not designated by number. It is referred to in the original description as "collected on the middle fork of the American River, California, by Dr. C. C. Boyle." In the list of specimens of *Hesperomys boylii* in Baird's Mammals, No. 1270<sup>356</sup> is the only one with the above data and is consequently to be taken as the type.

**Peromyscus bullatus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 63, March 21, 1904.

54405. Skin and skull. Adult female. Perote, Vera Cruz, Mexico. June 3, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 4932.

Well-made skin in good condition; skull perfect.

**Hesperomys campestris** Le Conte.

Proc. Acad. Nat. Sci. Phila., VI, p. 413, this paper was reported favorably for publication October 25, 1853.

= *Peromyscus leucopus noveboracensis* (Fischer).

4726. Skin (no history of a skull). Immature. New Jersey. Major J. E. Le Conte, U. S. A. Catalogued April 13, 1861.

Skin in wretched shape and condition. Le Conte's original specimens were in alcohol, and the specimen is evidently an attempt at making a skin from one of them. Large areas of hair have slipped from the back and belly.

Type not designated by number. Coues is the only authority for considering it the type. On page 51 of Monographs of North American Rodentia he refers to it as the type, and again on page 62. In addition, the specimen is entered in the Museum catalogue as "*Hesperomys campestris*" and as coming from Le Conte April 13, 1861. One of the old labels on the specimen has written on the back, "Type of the species as described Pr. A. N. S., VI, 1853, 413."

**Peromyscus canus** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 3, March 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XVIII, No. 1075, p. 445, May 23, 1896.)

=**Peromyscus texanus** (Woodhouse). See Mearns, Bull. U. S. Nat. Mus., No. 56, pt. 1, p. 404, April 13, 1907.

$\frac{211}{370} \frac{99}{98}$ . Skin and skull. Adult female. Fort Clark, Kinney County, Texas. January 13, 1893. Collected by Dr. E. A. Mearns, U. S. A. Original number 2208. International Boundary Commission. Skin catalogued August 29, 1893; skull, February 27, 1896.

Well-made skin in good condition; skull perfect.

**Peromyscus texanus castaneus** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 58-59, March 21, 1904.

107980. Skin and skull. Adult male. Yohaltun, Campeche, Mexico. December 19, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14283.

Well-made skin in good condition; skull perfect.

**Peromyscus texanus clementis** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 4, March 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XVIII, No. 1075, p. 446, May 23, 1896.)

61117. Skin and skull. Adult male. San Clemente Island, Pacific Ocean, California. August 27, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3819. International Boundary Commission. Catalogued November 17, 1894.

Well-made skin in good condition; skull perfect.

**Hesperomys cognatus** Le Conte. Cotypes.

Proc. Acad. Nat. Sci. Phila., VII, p. 442, this paper was reported favorably for publication December 25, 1855.

=**Peromyscus gossypinus** (Le Conte).

4708 and 4709. Poorly made skins but well preserved; skulls inside. Collected by Major J. E. Le Conte, U. S. A. The locality given in the original description is Georgia and South Carolina. Catalogued April 13, 1861.

The specimens are considered cotypes on Dr. Coues's authority. In the synonymy of *Hesperomys leucopus* on page 51, Monographs of North American Rodentia, he gives "*Hesperomys cognatus* Le Conte, Proc. Acad. Nat. Sci. Phila., VII, 1855, p. 442 (Southern States; types, Nos. 4708, 4709, Mus. Smiths.)."

**Peromyscus comptus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 120, April 30, 1898.

70191. Skin and skull. Adult male. Mountains near Chilpancingo, Guerrero, Mexico. December 24, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 7266.

Well-made skin in good condition; skull perfect, except for broken left zygoma.



- Peromyscus melanophrys consobrinus** Osgood. Biol. Survey coll.  
Proc. Biol. Soc. Wash., XVII, p. 66, March 21, 1904.  
79626. Skin and skull. Adult female. Berriozabal, Zacatecas, Mexico. July 10, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9818.  
Well-made skin in good condition; skull perfect.
- Peromyscus cozumelæ** Merriam. Biological Survey collection.  
Proc. Biol. Soc. Wash., XIV, p. 103, July 19, 1901.  
108449. Skin and skull. Adult male. Cozumel Island, Yucatan, Mexico. April 11, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14686.  
Well-made skin in good condition; skull perfect.
- Hesperomys crinitus** Merriam. Biological Survey collection.  
North Amer. Fauna, No. 5, pp. 53-54, fig. 3, July 30, 1891.  
= **Peromyscus crinitus** (Merriam). See Bangs, Proc. New Eng. Zool. Club, I, p. 67, July 31, 1899.  
 $\frac{24}{11} \frac{25}{55}$ . Skin and skull. Adult male. Shoshone Falls, Idaho. October 10, 1890. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 1945.  
Well-made skin in good condition; skull perfect.
- Peromyscus zarhynchus cristobalensis** Merriam.  
Biological Survey collection.  
Proc. Biol. Soc. Wash., XII, pp. 117-118, April 30, 1898.  
76109. Skin and skull. Adult female. San Cristobal, Chiapas, Mexico. October 2, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8536.  
Well-made skin in good condition; skull perfect.
- Peromyscus attwateri eremicoides** Osgood. Biological Survey coll.  
Proc. Biol. Soc. Wash., XVII, p. 60, March 21, 1904.  
= **Peromyscus pectoralis eremicoides** (Osgood). See Bailey, Proc. Biol. Soc. Wash., XIX, p. 57, May 1, 1906.  
57729. Skin and skull. Adult male. Mapimi, Durango, Mexico. December 15, 1893. Collected by E. A. Goldman. Original number 235.  
Well-made skin in good condition; skull perfect.
- Hesperomys eremicus** Baird. Cotypes.  
Mammals of North America, p. 479, 1857.  
= **Peromyscus eremicus** (Baird). See Allen, Bull. Amer. Mus. Nat. Hist., VII, p. 226, June 29, 1895.  
 $\frac{15}{4} \frac{8}{10}$ . Skin (lost) and skull. Male. Fort Yuma, California. 1853. Received from Maj. G. H. Thomas, U. S. A. Catalogued June

24, 1856. Both halves of mandible present and a portion of the left upper maxilla, all with some of the teeth out, which are still present, however.

2574. Data as above, preserved in alcohol; specimen lost. Catalogued May, 1857.

$\frac{2575}{38063}$ . In alcohol; skull removed. Female. Data as above. Specimen in good condition except for some shedding of hair about the flanks. The skull was removed in May, 1902, and is in good condition. Alcoholic catalogued May, 1857; skull, May 26, 1902.

Baird's description is based upon six specimens, three from Fort Yuma, California, and three from "Colorado bottom, Cal." There is nothing to indicate that any one specimen was regarded as more typical than any of the others. It seems best, however, to restrict the cotypes to the three first mentioned as from Fort Yuma, since this is a definite locality; and to consider the three from "Colorado bottom" as paratypes. Much of the description is based upon details of the soles of the feet, which could be made out more readily in alcoholic specimens. Two of the Fort Yuma specimens were in alcohol, while all the "Colorado bottom" specimens were skins.

**Peromyscus spicilegus evides** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, p. 64, March 21, 1904.

71426. Skin and skull. Adult male. Juquila, Oaxaca, Mexico. February 28, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7572.

Well-made skin in good condition; skull perfect.

**Peromyscus felipensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 122-123, April 30, 1898.

68409. Skin and skull. Adult male. Cerro San Felipe, Oaxaca, Mexico. August 22, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6611.

Well-made skin in good condition; skull perfect.

**Peromyscus sonoriensis fulvus** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, p. 57, March 21, 1904.

68655. Skin and skull. Adult male. Oaxaca, Oaxaca, Mexico. June 12, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6277.

Well-made skin in good condition; skull perfect.

**Hesperomys gambelii** Baird. Cotypes.

Mammals of North America, p. 464, 1857.

=**Peromyscus texanus gambelii** (Baird). See Allen, Bull. Amer. Mus. Nat. Hist., VIII, p. 267, December 4, 1896.

$\frac{368}{1282}$ . Skin and skull, and tail vertebrae.  $\frac{369}{1283}$ . Skin (lost) and skull, and tail vertebrae. Monterey, California. Collected by Lieut. W. P. Trowbridge, U. S. A. Skins catalogued January 4, 1854; skulls, January 6, 1855.

Dr. J. A. Allen discusses the status of the type of this species in the Bulletin of the American Museum of Natural History, Volume V, 1893, pages 190 and 191. He says: "*Hesperomys gambelii* Baird was based primarily on two mounted specimens (Nos.  $\frac{368}{1282}$  and  $\frac{369}{1283}$ ) from Monterey, California, of which No. 369 should probably be regarded as the type, as it is the only specimen specifically mentioned in the original account of the species. This specimen, Mr. F. W. True informs me (in a letter dated June 8, 1893), is not now extant, and has not been in the collection for many years. No. 368, which may be considered as a cotype, is, through the kindness of Mr. True, now before me. It is, however, almost valueless for purposes of comparison, having become greatly faded from long exposure to light as a mounted specimen; it has also lost its ears and is in a sad plight generally. This is the only skin extant positively referred by Baird in his original account of the species to *H. gambelii*."

In a footnote on page 191, *op. cit.*, Dr. Allen skillfully eliminates from his cotypes a large number of specimens from various localities that Baird lists in the original description.

Skin No. 368 in very poor condition, much faded and without ears; No. 369 can not be found. Skull No. 1282 lacks both malars, No. 1283 lacks all the right upper molars and left malar, otherwise both in good condition.

**Peromyscus gratus gentilis** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., pp. 61-62, March 21, 1904.

78937. Skin and skull. Adult male. Lagos, Jalisco, Mexico. June 27, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9702.

Well-made skin in good condition; skull perfect.

**Peromyscus goldmani** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 75, March 21, 1904.

96340. Skin and skull. Adult female. Alamos, Sonora, Mexico. December 19, 1898. Collected by E. A. Goldman. Original number 13306.

Well-made skin in good condition; skull perfect.

**Hesperomys gossypinus** Le Conte. Cotype.

Proc. Acad. Nat. Sci. Phila., VI, p. 411, this paper was reported favorably for publication October 25, 1853.

=*Peromyscus gossypinus* (Le Conte). See Rhoads, Proc. Acad. Nat. Sci. Phila., 1896, p. 189, April 21, 1896.

546. Skin. Male. Riceboro, Georgia. September 13, 1847. Collected by Major J. E. Le Conte, U. S. A. Catalogued March 8, 1855. It can not be found.

4704. Skin, skull inside. Riceboro, Georgia. Collected by Major J. E. Le Conte, U. S. A. Catalogued April 13, 1861.

Skin in fair condition, but tail not skinned out; skull still in the skin.

As this is the only one extant in the National Museum of Le Conte's original specimens, it is perhaps well to treat it as a cotype.

No. 546 is the only specimen from Le Conte listed in Baird's Mammals of North America. Later, other specimens from Le Conte, from Georgia, came into

the collection—4704, 4705, and 4711. Of these, 4704 is the only one that can be found. The published measurements of 546, both in Baird's *Mammals of North America*, page 469, and Coues's *Monographs of North American Rodentia*, page 78, more nearly agree with the measurements of the original description than the measurements of any of the others do.

### *Hesperomys gracilis* Le Conte.

Proc. Acad. Nat. Sci. Phila., VII, p. 442, ordered published at meeting of December 25, 1855.

=*Peromyscus gracilis* (Le Conte).

$\frac{10292}{3800\frac{1}{2}}$ . Skin and skull. Received from Major J. E. Le Conte, U. S. A. Date and locality unknown. Skin catalogued October 15, 1872; skull, May 26, 1902.

The skin is in very poor condition. The left hind leg is the only one present. The skull, removed in May, 1902, is somewhat more serviceable. The posterior half of the brain-case has been cut away; the left zygoma is missing. The right half of the mandible is perfect, while the ascending portion of the left half is broken off.

Attached to the specimen are three labels reading as follows:

(1) "Monograph of American Muridæ. Dr. Elliott Coues, U. S. A. No. 10292. Type of *Hesperomys gracilis*=*leucopus*."

(2) "*Hesp. 'gracilis'* Le Conte type specimen Wisconsin? Ohio? Michigan?" pasted on the reverse side of this label is "*gracilis*."

(3) "Monograph of American Muridæ. Dr. Elliott Coues, U. S. A. No. 10292. *Hesperomys leucopus*."

There is little in the original description to indicate that this specimen is the type. The entry in the catalogue for 10292 reads "Dry type of *gracilis*."

On page 51, *Monographs of North American Rodentia*, under the synonymy of *Hesperomys leucopus*, Dr. Coues gives "*Hesperomys gracilis*, Le Conte, Proc. Acad. Nat. Sci. Phila., VII, 1855, 442 (Ohio or Michigan and Wisconsin; types Nos.—, 4710, Mus. Smiths.)." The dash may refer to the above specimen; the other specimen, 4710, is one not quite so poor. There is nothing about its labels or catalogue entry to indicate that it is a type or cotype.

### *Peromyscus gratus* Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 128, April 30, 1898.

50619. Skin and skull. Adult female. Tlalpam, Federal District, Mexico. November 30, 1892. Collected by E. W. Nelson. Original number 3927.

Well-made skin in good condition; skull perfect.

### *Peromyscus guatemalensis* Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 118, April 30, 1898.

76861. Skin and skull. Adult male. Todos Santos, Guatemala. December 31, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8991.

Well-made skin in good condition; skull perfect, except for absence of right coronoid process.

**Peromyscus hylæus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XXI, pp. 141-142, June 9, 1908.

127038. Skin and skull. Adult male. Hollis, Kasaan Bay, Prince of Wales Island, Alaska. May 15, 1903. Collected by W. H. Osgood. Original number 2234.

Well-made skin in good condition; skull perfect.

**Peromyscus hylocetes** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 124, April 30, 1898.

50423. Skin and skull. Adult female. Patzcuaro, Michoacan, Mexico. July 27, 1892. Collected by E. W. Nelson and E. A. Goldman. Original number 2961.

Well-made skin in good condition; skull perfect.

**Peromyscus pectoralis laceianus** Bailey. Biological Survey coll.

Proc. Biol. Soc. Wash., XIX, p. 57, May 1, 1906.

97063. Skin and skull. Adult male. Ranch of Howard Lacey, Turtle Creek, near Kerrville, Texas. May 3, 1899. Collected by V. Bailey. Original number 6860.

Well-made skin in good condition; skull perfect.

**Peromyscus boylei laceyi** Bailey. Biological Survey collection.

North Amer. Fauna, No. 25, pp. 99-100, October 24, 1905.

= **Peromyscus attwateri** Allen. See Bailey, Proc. Biol. Soc. Wash., XIX, p. 57, May 1, 1906.

92746. Skin and skull. Adult male. Turtle Creek, Kerr County, Texas. December 4, 1897. Collected by H. P. Attwater. Original number 1372x.

Well-made skin in good condition; skull perfect, except for absence of last right lower molar.

**Peromyscus lepturus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 118-119, April 30, 1898.

68612. Skin and skull. Adult male. Mount Zempoaltepec, Oaxaca, Mexico. July 8, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6381.

Well-made skin in good condition; skull perfect.

**Peromyscus levipes** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 123-124, April 30, 1898.

53673. Skin and skull. Adult male. Mount Malinche, Tlaxcala, Mexico. May 12, 1893. Collected by E. W. Nelson. Original number 4799.

Well-made skin in good condition; skull perfect.

**Peromyscus lophurus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 72, March 21, 1904.

77219. Skin and skull. Adult male. Todos Santos, Guatemala. December 30, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8956.

Well-made skin in good condition; skull perfect.

**Peromyscus luteus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, p. 78, February 21, 1905.

 $\frac{186}{25}$  $\frac{55}{44}$  $\frac{58}{47}$ . Skin and skull. Adult female. Kennedy, Nebraska. April 23, 1890. Collected by V. Bailey. Original number 1079.

Well-made skin in good condition; skull perfect.

**Hesperomys macropus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, pp. 53-54, October 8, 1890.

=**Peromyscus floridanus** (Chapman). See Chapman, Bull. Amer. Mus. Nat. Hist., VI, p. 336, November 30, 1894; Trouessart, Catalogus Mammalium, p. 516. 1897. $\frac{166}{23}$  $\frac{52}{13}$ . Skin and skull. Adult male. Lake Worth, Florida. May 5, 1889. Collected by M. M. Green. Original number 72.

Well-made skin in good condition; skull perfect, except for absence of left coronoid process.

**Peromyscus madrensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 16, January 27, 1898.

89223. Skin and skull. Adult male. Maria Madre Island, Tres Marias Islands, Mexico. May 18, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11040.

Well-made skin in good condition; skull perfect.

**Peromyscus texanus medius** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 4, March 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XVIII, No. 1075, p. 446, May 23, 1896.)

61059. Skin and skull. Adult male. Nachoguero Valley, near monument No. 238, Mexican Boundary line, Lower California, Mexico. June 4, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3623. International Boundary Commission. Catalogued November 17, 1894.

Well-made skin in good condition; skull perfect, except for loss of angular process on left half of mandible.

**Peromyscus megalops** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 119, April 30, 1898.

71592. Skin and skull. Old male. Mountains near Ozolotepec, Oaxaca, Mexico. March 26, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7733.

Well-made skin in good condition; skull perfect, except for absence of first upper molars, and angular processes of mandible.

**Hesperomys megalotis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 3, pp. 63-64, pl. 3, figs. 1-4, pl. 4; September 4, 1890.  
 = *Peromyscus truei* (Shufeldt).

1188<sup>3</sup>/<sub>4</sub>. Skin and skull. Adult male. Black Tank, Little Colorado Desert, Arizona. September 21, 1889. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 502.

Well-made skin in good condition; skull perfect.

**Peromyscus mekisturus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 124-125, April 30, 1898.

64108. Skin and skull. Adult female. Chalchicomula, Puebla, Mexico. March 16, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5951.

Well-made skin in good condition; skull perfect, except for broken left lower incisor.

**Peromyscus melanocarpus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 73-74, March 21, 1904.

68610. Skin and skull. Young adult female. Mount Zempoaltepec, Oaxaca, Mexico. July 8, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6379.

Well-made skin in good condition; skull perfect, except for broken right zygoma.

**Hesperomys (Vesperimus) melanophrys** Coues.

Proc. Acad. Nat. Sci. Phila., 1874, p. 181, December 15, 1874.

= *Peromyscus melanophrys* (Coues). See Allen, Bull. Amer. Mus. Nat. Hist., IX, p. 51, March 15, 1897.

1918<sup>3</sup>/<sub>4</sub>. Skin and skull. Adult. Santa Efigenia, near Tapaná, Oaxaca, Mexico. July 11, 1871. Collected by Prof. F. Sumichrast. Original number 2. Skin catalogued February 24, 1872; skull, January 4, 1873.

The skin is in good condition and fairly well made up, except that tail has never been skinned out. The following parts are lacking on the skull: All four occipital bones, both malars, and both angular processes of the mandible.

The original label bears the following legible measurements: "Lg. tot. 245 mill.—tip of snout to tail (below) 11 centim.—tail 135 mill.—from tip of nose to eye 15 mill.—ditto to ear 25.—ear, exteriorly 20 mill., interiorly 22 mill."

**Peromyscus merriami** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 2, May 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XIX, No. 1103, p. 138, December 21, 1896.)

59234. Skin and skull. Adult female. Sonoyta, on the Sonoyta River, Sonora, Mexico. January 21, 1894. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 2815. International Boundary Commission. Catalogued February 23, 1894.

Well-made skin in good condition; skull perfect.

**Peromyscus texanus mesomelas** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 57-58, March 21, 1904.

58210. Skin and skull. Adult male. Orizaba, Vera Cruz, Mexico. January 20, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5705.

Well-made skin in good condition; skull perfect.

**Peromyscus leucopus minnesotæ** Mearns.

Proc. Biol. Soc. Wash., XIV, p. 154, August 9, 1901.

82717. Skin and skull. Adult female. Fort Snelling, Hennepin County, Minnesota. November 30, 1890. Collected by Dr. E. A. Mearns, U. S. A. Original number 1181. Catalogued July 30, 1896.

Well-made skin in good condition; skull perfect.

**Peromyscus musculoides** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 124, April 30, 1898.

69661. Skin and skull. Old male. Cuicatlan, Oaxaca, Mexico. October 14, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6892.

Well-made skin in good condition; skull perfect.

**Sitomys musculus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 170-171, September 29, 1892.

=**Peromyscus musculus** (Merriam). See Allen and Chapman, Bull. Amer. Mus. Nat. Hist., IX, p. 203, June 16, 1897.

$\frac{33}{2} \frac{43}{4} \frac{37}{0}$ . Skin and skull. Adult male. Colima, Colima, Mexico. March 9, 1892. Collected by E. W. Nelson. Original number 2055.

Well-made skin in good condition; skull perfect.

**Peromyscus (Megadontomys) nelsoni** Merriam. Biol. Survey coll.

Proc. Biol. Soc. Wash., XII, pp. 116-117, April 30, 1898.

55024. Skin and skull. Adult female. Jico, Vera Cruz, Mexico. July 10, 1893. Collected by E. W. Nelson. Original number 5202.

Well-made skin in good condition; skull perfect, except for absence of last left upper molar.

**Peromyscus musculus nigrescens** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVIII, p. 76, March 21, 1904.

76827. Skin and skull. Adult female. Valley of Comitán, Chiapas, Mexico. December 9, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8719.

Well-made skin in good condition; skull perfect.



**Peromyscus oaxacensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 122, April 30, 1898.

68426. Skin and skull. Young adult male. Cerro San Felipe, Oaxaca, Mexico. September 1, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6700.

Well-made skin in good condition; skull perfect.

**Peromyscus mexicanus orizabæ** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XII, pp. 121-122, April 30, 1898.

58197. Skin and skull. Adult male. Orizaba, Vera Cruz, Mexico. January 29, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5787.

Well-made skin in good condition; skull perfect.

**Peromyscus attwateri pectoralis** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 59-60, March 21, 1904.

=**Peromyscus pectoralis** (Osgood). See Bailey, Proc. Biol. Soc. Wash., XIX, p. 57, May 1, 1906.

81236. Skin and skull. Adult male. Jalpan, Queretaro, Mexico. August 30, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 10095.

Well-made skin in good condition; skull perfect, except for absence of last upper molars.

**Peromyscus boylii penicillatus** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 2, May 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XIX, No. 1103, p. 139, December 21, 1896.)

=**Peromyscus boylei rowleyi** (Allen). See Bailey, North Amer. Fauna, No. 25, p. 98, October 24, 1905.

$\frac{2}{3} \frac{0}{5} \frac{3}{4} \frac{3}{2} \frac{4}{6}$ . Skin and skull. Adult female. Foothills of Franklin Mountains near El Paso, Texas. February 19, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1463. International Boundary Commission. Catalogued April 28, 1892.

Well-made skin in good condition; skull perfect, except for loss of angular process of left half of mandible.

**Peromyscus eremicus phæurus** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 75-76, March 21, 1904.

50438. Skin and skull. Adult female. Hacienda La Parada, San Luis Potosi, Mexico. August 20, 1892. Collected by E. W. Nelson. Original number 3227.

Well-made skin in good condition; skull perfect, except for slight perforations of left auditory bulla and left parietal.

- Peromyscus polius** Osgood. Biological Survey collection.  
Proc. Biol. Soc. Wash., XVII, p. 61, March 21, 1904.
98226. Skin and skull. Adult female. Colonia Garcia, Chihuahua, Mexico. June 26, 1899. Collected by E. W. Nelson and E. A. Goldman. Original number 13846.  
Well-made skin in good condition; skull perfect.
- Peromyscus prevostensis** Osgood. Biological Survey collection.  
North Amer. Fauna, No. 21, pp. 29-30, September 26, 1901.
100818. Skin and skull. Adult female. Prevost Island, Queen Charlotte Islands, British Columbia. July 5, 1900. Collected by W. H. Osgood and E. Heller. Original number 1135.  
Well-made skin in good condition; skull perfect.
- Peromyscus oreas rubidus** Osgood. Biological Survey collection.  
Proc. Biol. Soc. Wash., XIV, pp. 193-194, December 12, 1901.
91650. Skin and skull. Young adult female. Mendocino City, Mendocino County, California. November 17, 1897. Collected by J. A. Loring. Original number 4925.  
Well-made skin in good condition; skull perfect.
- Hesperomys leucopus rufinus** Merriam. Biological Survey coll.  
North Amer. Fauna, No. 3, pp. 64-66, pl. 3, figs. 5-8, September 4, 1890.  
= *Peromyscus rufinus* (Merriam).
- $\frac{11946}{24582}$ . Skin and skull. Adult female. San Francisco Mountain, Arizona. August 22, 1889. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 401.  
Well-made skin in good condition, except for a bare spot on left side; skull perfect.
- Peromyscus mexicanus saxatilis** Merriam. Biological Survey coll.  
Proc. Biol. Soc. Wash., XII, p. 121, April 30, 1898.
77296. Skin and skull. Adult male. Jacaltenango, Huehuetenango, Guatemala. December 19, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8824.  
Well-made skin in good condition; skull perfect.
- Peromyscus simulatus** Osgood. Biological Survey collection.  
Proc. Biol. Soc. Wash., XVII, pp. 72-73, March 21, 1904.
55028. Skin and skull. Adult female. Jico, Vera Cruz, Mexico. July 12, 1893. Collected by E. W. Nelson. Original number 5224.  
Well-made skin in good condition; skull perfect.

**Peromyscus spicilegus simulus** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 64-65, March 21, 1904.

88088. Skin and skull. Adult male. San Blas, Tepic, Mexico. April 18, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10933.

Well-made skin in good condition; skull perfect, except for absence of last right upper molar.

**Peromyscus sitkensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 223, July 15, 1897.

73809. Skin and skull. Adult male. Sitka, Alaska. July 30, 1895. Collected by C. P. Streator. Original number 4720.

Well-made skin in good condition; skull perfect.

**Hesperomys sonoriensis** Le Conte.

Proc. Acad. Nat. Sci. Phila., VI, p. 413, this paper was reported favorably for publication October 25, 1853.

=**Peromyscus sonoriensis** (Le Conte). See Mearns, Bull. U. S. Nat. Mus., No. 56, p. 384, April 13, 1907.

11<sup>46</sup><sub>28</sub>. Skin and skull. Young. Santa Cruz, Sonora, Mexico. 1851. Collected by J. H. Clark on expedition under command of Col. J. D. Graham, U. S. A. Catalogued May 19, 1853.

The skin is well made up, probably remade, but the specimen has a worn and dirty look about it. Skull much broken, but now patched up, so that the missing parts are the two zygomatic arches, the last left upper molar, and the angular, condyloid, and coronoid processes of the right half of the mandible.

Type not designated by number, but it is mentioned as one "collected by the Boundary Commission under Major Graham." Referring to Baird's Mammals of North America, page 476, there are found to be three specimens collected by that commission—nos. 144, 146, and 147. The measurements of no. 146 agree very closely with the measurements given by Le Conte; no. 144 does not agree with them at all, and of no. 147 no measurements are given and the specimen itself can not be found. No. 146 is evidently the type. It was so considered and marked by Coues in 1877.

**Peromyscus stephensi** Mearns.

Proc. U. S. Nat. Mus., XIX, No. 1121, p. 721, July 30, 1897.

61026. Skin and skull. Adult female. From the lowest water on the wagon road, in a canyon at the eastern base of the Coast Range Mountains, San Diego County, near Mexican boundary line, California. May 9, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3512. International Boundary Commission. Catalogued November 17, 1894.

Well-made skin in good condition. Skull perfect, except right zygoma broken and some slight injury at base of foramen magnum.

**Peromyscus taylori subater** Bailey. Biological Survey collection.

North Amer. Fauna, No. 25, pp. 102-103, fig. 15, October 24, 1905.

$\frac{22}{34} \frac{61}{33}$ . Skin and skull. Adult female. Bernard Creek, near Columbia, Texas. February 25, 1892. Collected by W. Lloyd. Original number 1122.

Well-made skin in good condition; skull perfect.

**Peromyscus mexicanus teapensis** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 69-70, March 21, 1904.

100022. Skin and skull. Adult female. Teapa, Tabasco, Mexico. March 25, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14067.

Well-made skin in good condition; a bare spot on abdomen; skull perfect.

**Peromyscus tehuantepecus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 122, April 30, 1898.

75302. Skin and skull. Adult female (not male as in original description). Tehuantepec, Oaxaca, Mexico. May 23, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7980.

Well-made skin in good condition; skull perfect.

**Hesperomys texanus** Woodhouse.

Proc. Acad. Nat. Sci. Phila., VI, p. 242, this paper was reported favorably for publication February 22, 1853.

=**Peromyscus texanus** (Woodhouse). See Mearns, Bull. U. S. Nat. Mus., No. 56, p. 404, April 13, 1907.

$\frac{2559}{37028}$ . Skin preserved in alcohol and fragments of skull. Western Texas on the Rio Grande near El Paso, according to published statements of Woodhouse, but probably from south-central Texas. (See Mearns, Bull. U. S. Nat. Mus., No. 56, p. 406, April 13, 1907.) Collected by Dr. S. W. Woodhouse, on Capt. L. Sitgreaves's expedition, probably in autumn of 1852. Skin catalogued April, 1857; skull, January 12, 1896.

Skin in alcohol, a miserable looking affair and much discolored. Feet and leg bones complete and perfect. Skull represented by the greater portion of each half of the mandible, most of the rostrum, and a portion of each maxillary bone, each piece containing the two anterior molars.

Type not designated by number. In the description but one specimen is implied, and in Baird's Mammals, under list of specimens, 2559 is the only one having the data of Doctor Woodhouse's specimen. Another specimen, No.  $\frac{37155}{37155}$ , labeled "*Hesperomys texana* W. Texas, Dr. Woodhouse," is in the Museum, but this was not mentioned by Baird and has not been regarded as a type, although it may have been in the hands of Dr. Woodhouse when the description was written.

**Peromyscus (Megadontomys) thomasi** Merriam. Biol. Survey coll.

Proc. Biol. Soc. Wash., XII, p. 116, fig. 20, April 30, 1898.

70142. Skin and skull. Old male. Mountains near Chilpancingo, Guerrero, Mexico. December 24, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 7250.

Well-made skin in good condition; skull perfect.

**Peromyscus tiburonensis** Mearns.

Proc. U. S. Nat. Mus., XIX, No. 1121, p. 720, July 30, 1897.

63186. Skin and skull. Adult male. Tiburon Island, Gulf of California, Mexico. December 25, 1895. Collected by J. W. Mitchell. Original number 1. Catalogued March 16, 1896.

Skin in fair condition, recently made into a modern study skin, a small area on the left flank without hair; skull perfect, except for loss of right malar.

**Peromyscus tornillo** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 3, March 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XVIII, No. 1075, p. 445, May 23, 1896.)

$\frac{20925}{36420}$ . Skin and skull. Adult male. Six miles above El Paso, Texas, on the Rio Grande. February 18, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1458. International Boundary Commission. Catalogued April 28, 1892.

Well-made skin in good condition; skull perfect, except for loss of left malar.

**Peromyscus mexicanus totontepecus** Merriam. Biol. Survey coll.

Proc. Biol. Soc. Wash., XII, pp. 120-121, April 30, 1898.

68624. Skin and skull. Adult female. Totontepec, Oaxaca, Mexico. July 16, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6465.

Well-made skin in good condition; skull perfect, except for slightly broken basioecipital and right zygoma.

**Hesperomys truei** Shufeldt.

Proc. U. S. Nat. Mus., VIII, p. 405, pl. 21, figs. 1, 5, and 8, September 14, 1885.

=*Peromyscus truei* (Shufeldt). See Allen, Bull. Amer. Mus. Nat. Hist., VII, p. 229, June 29, 1895.

$\frac{14954}{35108}$ . Skin, skull, and skeleton. Adult male. Fort Wingate, New Mexico. March 14, 1885. Collected by Dr. R. W. Shufeldt, U. S. A. Skin catalogued April 17, 1885; skull, April 9, 1891.

Fairly well-made skin in good condition. Right fore and left hind leg used for the skeleton. Skull with both malars absent, and pterygoids injured. Two right upper and lower posterior molars and last left lower molar missing. Angular process of left half of mandible broken off. Greater part of skeleton seems to be present but mostly disarticulated.

Type designated by number on page 405 of the original description, where it reads "14904," evidently a mistake for 14954, as 14904 refers in the Museum catalogue to a *Neotoma* collected by Doctor Shufeldt at Fort Wingate.

**Peromyscus banderanus vicinior** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 68-69, March 21, 1904.

126503. Skin and skull. Adult male. La Salada, Michoacan, Mexico. March 23, 1903. Collected by E. W. Nelson and E. A. Goldman. Original number 16216.

Well-made skin in good condition; skull perfect.

**Peromyscus xenurus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 67, March 21, 1904.

94518. Skin and skull. Adult female. Durango, Durango, Mexico. July 1, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 12677.

Well-made skin in good condition; skull perfect, except for absence of last right and left upper molars.

**Peromyscus melanotis zamelas** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, p. 59, March 21, 1904.

98197. Skin and skull. Adult female. Colonia Garcia, Chihuahua, Mexico. July 24, 1899 (not July 23, 1899, as in original description). Collected by E. W. Nelson and E. A. Goldman. Original number 13915.

Well-made skin in good condition; skull perfect.

**Peromyscus melanophrys zamoræ** Osgood. Biological Survey coll.

Proc. Biol. Soc. Wash., XVII, pp. 65-66, March 21, 1904.

120288. Skin and skull. Adult male. Zamora, Michoacan, Mexico. January 20, 1903. Collected by E. W. Nelson and E. A. Goldman. Original number 15783.

Well-made skin in good condition; skull perfect.

**Peromyscus zarhynchus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 117, April 30, 1898.

76119. Skin and skull. Adult female. Tumbala, Chiapas, Mexico. October 26, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8606.

Well-made skin in good condition; skull perfect.

**Peromyscus zelotes** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 67-68, March 21, 1904.

50430. Skin and skull. Adult female. Querendaro, Michoacan, Mexico. August 8, 1892. Collected by E. W. Nelson. Original number 3056.

Well-made skin in good condition; skull perfect.

## Genus NYCTOMYS.

**Sitomys (Rhipidomys) decolorus** True.

Proc. U. S. Nat. Mus., XVI, No. 963, p. 689, February 5, 1894.

=*Nyctomys decolorus* (True). See Bangs, Bull. Mus. Comp. Zool., XXXIX, p. 30, April, 1902.

$\frac{2}{3} \frac{1}{1} \frac{2}{2}$ . Skin and skull. Young adult female. Rio de las Piedras, Honduras. November 17, 1890. (Not Dec. 11, 1890, as in original description. The original label is marked thus: "17 11.90." The "7" is rather blotted, but scarcely looks like a "2.") Collected by Erich Wittkügel.

Original number 9. Catalogued August 12, 1893.

Well-made skin in good condition; skull with nearly all of each zygoma broken away; otherwise complete.

Type not designated as such by number, but the single specimen is referred to by number.

## Genus TYLOMYS.

**Tylomys bullaris** Merriam.

Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 561, November 29, 1901.

76058. Skin and skull. Immature male. Tuxtla, Chiapas, Mexico. September 7, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8406.

Well-made skin in good condition; skull perfect, except for absence of nasals.

**Tylomys tumbalensis** Merriam.

Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 560-561, November 29, 1901.

76059. Skin and skull. Young adult male. Tumbala, Chiapas, Mexico. October 23, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8568.

Well-made skin in good condition; skull perfect.

## Genus OTOTYLOMYS.

**Ototylomys phyllotis** Merriam.

Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 562-563, November 29, 1901.

108099. Skin and skull. Old male. Tunkas, Yucatan, Mexico. February 17, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14551.

Well-made skin in good condition; skull perfect.

**Ototylomys phyllotis phæus** Merriam.

Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 563, November 29, 1901.

107940. Skin and skull. Adult female. Apazote, near Yohaltun, Campeche, Mexico. December 28, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14369.

Well-made skin in good condition, except for bare space on left shoulder; left ear attached to skin with thread; skull perfect.

## Genus EUNEOMYS.

**Euneomys petersoni** Allen.

Bull. Amer. Mus. Nat. Hist., XIX, p. 192, May 9, 1903.

84198. Skin and skull. Adult female. Upper Rio Chico de Santa Cruz, near the Cordilleras, Patagonia. February 10, 1897. Collected by O. A. Peterson. Original number 390. Catalogued March 16, 1898.

Well-made skin in good condition; skull slightly damaged; pterygoids absent, left bulla broken, tip of right nasal broken, both angular processes of lower jaw broken away.

## Genus OXYMYCTERUS.

**Oxymycterus microtus** Allen.

Bull. Amer. Mus. Nat. Hist., XIX, p. 189, May 9, 1903.

84234. Skin and skull. Adult male. Pacific slope of the Cordilleras near the head of the Rio Chico de Santa Cruz, Patagonia. March 7, 1897. Collected by O. A. Peterson. Original number 570. Catalogued March 16, 1898.

Well-made skin in good condition; skull perfect, except that left zygoma is broken.

## Genus REITHRODON.

**Reithrodon hatcheri** Allen.

Bull. Amer. Mus. Nat. Hist., XIX, p. 191, May 9, 1903.

84210. Skin and skull. Adult male. Pacific slope of the Cordilleras, head of the Rio Chico de Santa Cruz, Patagonia. March 11, 1897. Collected by O. A. Peterson. Original number 600. Catalogued March 16, 1898.

Well-made skin in good condition, but lacks left fore and right hind legs. [It was Mr. Peterson's custom to save a good many skeletons of the animals he had skinned or to make up the skins of the animals he had saved for skeletons.] The skeleton of this individual was probably saved, but there is no record of its being in the Museum. Skull perfect except condyle of right half of mandible broken off, and corresponding angular process is slightly damaged.

## Genus MUS.

**Mus albigularis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 440, May 13, 1905.

125258. Skin and skull. Adult male. Mount Apo (7,600 feet altitude), southern Mindanao, Philippine Islands. July 3, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5699. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect.



**Mus anambæ** Miller.

Proc. Wash. Acad. Sci., II, p. 205, August 20, 1900.

101737. Skin and skull. Adult female. Pulo Jimaja, Anamba Islands, South China Sea. September 21, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Well-made skin in good condition; skull perfect, except for absence of malars and both pterygoids.

**Mus vulcani apicis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 447, May 13, 1905.

125229. Skin and skull. Adult female. Summit of Mount Apo (altitude about 9,700 feet), southern Mindanao, Philippine Islands. June 6, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5709. Catalogued December 12, 1904.

Well-made skin in good condition; skull damaged in pterygoid region, a diagonal hole in brain-case across posterior portion of parietals, and free end of left nasal broken away.

**Mus aquilus** True.

Proc. U. S. Nat. Mus., XV, No. 915, p. 460, fig. 1, October 26, 1892.

$\frac{18899}{34723}$ . Skin and skull. Adult male. Mt. Kilimanjaro, German East Africa; altitude, 8,000 feet. April 11, 1888. Collected by Dr. W. L. Abbott. Catalogued June 24, 1890.

Skin in good condition, fairly well made up; skull has the right posterior and basal portion of brain case broken away. The specimen was killed by a hawk.

**Mus asper** Miller.

Proc. Biol. Soc. Wash., XIII, p. 145, pl. 5., fig. 3, April 21, 1900.

86767. Skin and skull. Adult female. Khow Sai Dow (1,000 feet) Trong (or Tarang), lower Siam. February 2, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition; skull perfect.

**Mus atratus** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 767, pl. 41, fig. 5; pl. 42, figs. 5, 5a; May 28, 1902. Name preoccupied by *Mus atratus* Philippi. (Annales del Museo Nacional de Chile, Entrega, XIV, p. 57, 1900.)

=*Mus atridorsum* Miller. See Proc. Biol. Soc. Wash., XVI, p. 50, March 19, 1903.

111868. Skin and skull. Adult female. Barren Island, Andaman Islands. January 7, 1901. Collected by Dr. W. L. Abbott. Original number 818. Catalogued August 17, 1901.

Well-made skin in good condition; skull perfect.

**Bullimus bagobus** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 450, May 11, 1905.

=**Mus bagobus** (Mearns). See Thomas, Proc. Zool. Soc. London, 1907, p. 141.

125248. Skin and skull. Adult female. Todaya (altitude 4,000 feet) Mount Apo, southern Mindanao, Philippine Islands. July 13, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5729. Catalogued December 12, 1904.

Fairly well-made skin in fair condition, slight loss of hair on lower abdomen; skull perfect.

**Mus balæ** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 33, November 6, 1903.

121781. Skin and skull. Adult female. Tana Bala, Batu Islands, off west coast of Sumatra. February 12, 1903. Collected by Dr. W. L. Abbott. Original number 2274. Catalogued August 2, 1903.

Well-made skin in good condition; skull perfect.

**Mus batamanus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1502, p. 654, January 16, 1907.

143232. Skin and skull. Adult male. Senimba Bay, Batam Island, Rhio-Linga Archipelago. March 30, 1906. Collected by C. Boden Kloss. Original number 75. Catalogued June 19, 1906.

Well-made skin in good condition; skull perfect, except that both lower incisors are broken off to alveoli.

**Mus bentincanus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 38, November 6, 1903.

104269. Skin and skull. Adult female. Bentinck Island, Mergui Archipelago. March 11, 1900. Collected by Dr. W. L. Abbott. Original number 348. Catalogued November 5, 1900.

Well-made skin in good condition; skull perfect.

**Mus burrescens** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 771, May 28, 1902.

111789. Skin and skull. Adult female. Great Nicobar, Nicobar Islands. March 12, 1901. Collected by Dr. W. L. Abbott. Original number 926. Catalogued August 14, 1901.

Well-made skin in good condition; skull perfect.

**Mus burrulus** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 770, May 28, 1902.

111817. Skin and skull. Adult male. Car Nicobar, Nicobar Islands. January 25, 1901. Collected by Dr. W. L. Abbott. Original number 865. Catalogued August 15, 1901.

Well-made skin in good condition; skull perfect.

**Mus burrus** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 768, May 28, 1902.

111811. Skin and skull. Adult female. Trinkut Island, Nicobar Islands. February 5, 1902. Collected by Dr. W. L. Abbott. Original number 881. Catalogued August 14, 1901.

Well-made skin in good condition; skull nearly perfect, a piece of left pterygoid and nearly all of the left coronoid process of mandible missing.

**Mus surifer butangensis** Miller.

Proc. Biol. Soc. Wash., XIII, p. 190, December 21, 1900.

104309. Skin and skull. Adult male. Pulo Adang, Butang Islands, off west coast of Malay Peninsula. December 16, 1899. Collected by Dr. W. L. Abbott. Original number 157. Catalogued November 5, 1900.

Well-made skin in good condition; skull perfect.

**Mus carinatae** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1481, p. 59, July 23, 1906.

125079. Skin and skull. Adult male. Telok Pai, Karimata Island, off west coast of Borneo. August 20, 1904. Collected by Dr. W. L. Abbott. Original number 3612. Catalogued December 8, 1904.

Well-made skin in good condition; skull perfect.

**Mus casensis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 38, November 6, 1903.

104249. Skin and skull. Adult male. Chance Island, Mergui Archipelago. December 28, 1899. Collected by Dr. W. L. Abbott. Original number 188. Catalogued November 5, 1900.

Fairly well-made skin in good condition, end of tail lost during life; skull perfect.

**Mus catellifer** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 464, February 3, 1903.

114590. Skin and skull. Adult female. Pulo Mansalar, off Tapanuli Bay, west coast of Sumatra. March 3, 1902. Collected by Dr. W. L. Abbott. Original number 1587. Catalogued September 3, 1902.

Well-made skin in good condition; skull perfect, except for broken right upper incisor.

**Mus clabatus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 596, December 18, 1906.

124888. Skin and skull. Adult female. Klabat Bay, island of Banka, east of Sumatra. June 25, 1904. Collected by Dr. W. L. Abbott. Original number 3439. Catalogued December 3, 1904.

Well-made skin in good condition; skull considerably damaged, posterior left half of brain case broken away, and right ramus of mandible broken in two.

**Mus commissarius** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 449, May 13, 1905.

125213. Skin and skull. Adult female. Military commissary building at Davao, southern Mindanao, Philippine Islands. July 19, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5734. Catalogued December 12, 1904.

Fairly well-made skin in fair condition, some naked spots on belly; skull perfect, except loss of pterygoids.

**Mus cremoriventer** Miller.

Proc. Biol. Soc. Wash., XIII, p. 144, pl. 5, fig. 2, April 21, 1900.

86770. Skin and skull. Adult male. Khow Nok Ram (3,000 feet), Trong (or Tarang), lower Siam. January 16, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition; skull perfect, except loss of 2 or 3 mm. of distal end of left nasal.

**Mus defua** Miller.

Proc. Wash. Acad. Sci., II, p. 635, December 28, 1900.

83837. Skin and skull. Adult male. Mount Coffee (400 to 500 feet), Liberia, West Africa. May 3, 1897. Collected by R. P. Currie. Original number 53. Catalogued September 30, 1897.

Well-made skin in good condition; skull perfect, except right pterygoid missing and some injury about the foramen magnum.

**Mus domelicus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 39, November 6, 1903.

104257. Skin and skull. Adult female. Domel Island, Mergui Archipelago. February 24, 1900. Collected by Dr. W. L. Abbott. Original number 320. Catalogued November 5, 1900.

Well-made skin in good condition; skull with both zygomata and both condyloid processes, and last upper molar, right side, lacking.

**Mus domitor** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 461, February 3, 1903.

114621. Skin and skull. Adult female. Pulo Mansalar, at entrance to Tapanuli Bay, west coast of Sumatra. March 4, 1902. Collected by Dr. W. L. Abbott. Original number 1592. Catalogued September 3, 1902.

Well-made skin in good condition; skull perfect.

**Mus enganus** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1472, p. 821, June 4, 1906.

140976. Skin and skull. Adult male. Engano Island, west of Sumatra. December 4, 1904. Collected by Dr. W. L. Abbott. Original number 3823. Catalogued July 18, 1905.

Well-made skin in good condition; skull perfect, except loss of pterygoids.

**Mus exulans** Peale.

U. S. Exploring Expedition, VIII, *Mammalia* and *Ornithology*, p. 47, 1848.  
3730. Mounted skin with skull inside. Tahiti, Society Islands, Pacific Ocean. Collected by U. S. Exploring Expedition. Catalogued December 20, 1859.

Specimen old, dirty, much bleached, tail broken off, but still present.

It was mounted on a walnut stand with this inscription painted on the bottom: " | 3730 | *Mus exulans*, Peale (Type) | (*Mus penicillatus*, Gould) | Tahiti Rat | Society Ids. T. R. Peale | ." This specimen is accordingly considered the type rather than any of the other specimens collected by the Exploring Expedition from widely separated islands in the Pacific.

**Mus ferreocanus** Miller.

Proc. Biol. Soc. Wash., XIII, p. 140, pl. 3, fig. 2, and pl. 4, fig. 2, April 21, 1900.  
86737. Skin and skull. Adult female. Khow Nok Ram (3,000 feet), Trong (or Tarang), lower Siam. January 15, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition, except a slight scar on the lower back; skull perfect.

**Mus firmus** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 155, June 11, 1902.  
113038. Skin and skull. Adult female. Linga Island, Rhio-Linga Archipelago. August 25, 1901. Collected by Dr. W. L. Abbott. Original number 1215. Catalogued January 25, 1902.

Well-made skin in good condition; skull perfect.

**Mus surifer flavidulus** Miller.

Proc. Biol. Soc. Wash., XIII, p. 189, December 21, 1900.  
104330. Skin and skull. Adult female. Pulo Lankawi, off west coast of Malay Peninsula. December 4, 1899. Collected by Dr. W. L. Abbott. Original number 109. Catalogued November 5, 1900.

Well-made skin in good condition; skull perfect.

**Mus flaviventer** Miller.

Proc. Wash. Acad. Sci., II, p. 204, August 20, 1900.  
101739. Skin and skull. Adult male. Pulo Jimaja, Anamba Islands, South China Sea. September 18, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Well-made skin in good condition; skull perfect, except for loss of right malar.

**Mus flebilis** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 762, pl. 41, fig. 2; pl. 42, figs. 2, 2a; May 28, 1902.  
111841. Skin and skull. Adult female. Henry Lawrence Island, Andaman Islands. January 9, 1901. Collected by Dr. W. L. Abbott. Original number 827. Catalogued August 15, 1901.

Well-made skin in good condition; skull perfect.

**Mus fremens** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 154, June 11, 1902.

113087. Skin and skull. Adult male. Sinkep Island, Rhio-Linga Archipelago. September 4, 1901. Collected by Dr. W. L. Abbott. Original number 1273. Catalogued January 29, 1902.

Well-made skin in good condition; skull perfect.

**Mus gilbiventer** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 35, November 6, 1903.

104153. Skin and skull. Adult male. Sullivan Island, Mergui Archipelago. February 2, 1900. Collected by Dr. W. L. Abbott. Original number 295. Catalogued November 3, 1900.

Well-made skin in good condition; skull perfect.

**Mus arianus griseus** True. Cotypes.

Proc. U. S. Nat. Mus., XVII, No. 976, p. 8, May 8, 1894.

No type is mentioned, so that the three following specimens designated by numbers, upon which the description of the species is based, are taken as cotypes. They were all collected by Dr. W. L. Abbott in Kashmir in 1891, prepared as skins and skulls. Catalogued May 9, 1892.

$\frac{201}{366} \frac{33}{82}$ . Adult female. Central Kashmir (8,500 feet), in pine forest. October 8, 1891.

Skin fairly well made, in good condition; skull has posterior and basal parts of brain case cut away.

$\frac{201}{366} \frac{44}{84}$ . Young adult male. Pir Panjal Range, Kashmir. August 31, 1891.

Skin fairly well made, in good condition; skull perfect.

$\frac{201}{366} \frac{51}{114}$ . Male, apparently young. Mountains of central Kashmir. September 13, 1891.

Skin fairly well made, in fairly good condition; skull can not be found.

**Mus integer** Miller.

Proc. Wash. Acad. Sci., III, p. 119, March 26, 1901.

104837. Skin and skull. Adult male. Sirhassen Island, Natuna Islands. June 7, 1900. Collected by Dr. W. L. Abbott. Original number 455. Catalogued December 19, 1900.

Well-made skin in good condition; skull perfect.

**Mus julianus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 34, November 6, 1903.

112393. Skin and skull. Adult female. St. Julian Island, South China Sea. June 2, 1901. Collected by Dr. W. L. Abbott. Original number 987. Catalogued November 11, 1901.

Well-made skin in good condition; skull perfect, except tip of nasals broken.

**Mus kelleri** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 444, May 13, 1905.

125278. Skin and skull. Adult female. Davao, southern Mindanao, Philippine Islands. July 20, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5738. Catalogued December 13, 1904.

Well-made skin in good condition; skull perfect, except for loss of pterygoids and tip of left lower incisor.

**Mus vociferans lancavensis** Miller.

Proc. Biol. Soc. Wash., XIII, p. 188, December 21, 1900.

104173. Skin and skull. Adult female. Pulo Lankawi, off west coast of Malay Peninsula. December 6, 1899. Collected by Dr. W. L. Abbott. Original number 122. Catalogued November 3, 1900.

Well-made skin in good condition; skull perfect.

**Mus lingensis** Miller.

Proc. Wash. Acad. Sci., II, p. 206, August 20, 1900.

101614. Skin and skull. Adult male. Linga Island, Rhio-Linga Archipelago. July 15, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition, but pelage worn; skull perfect, except for loss of both malars, both pterygoids, and right upper incisor.

**Mus lucas** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 30, November 6, 1903.

104190. Skin and skull. Adult female. St. Luke Island, Mergui Archipelago. January 20, 1900. Collected by Dr. W. L. Abbott. Original number 253. Catalogued November 5, 1900.

Well-made skin in good condition; skull perfect.

**Mus lugens** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 33, November 6, 1903.

121533. Skin and skull. Adult female. North Pagi Island, off west coast of Sumatra. November 15, 1902. Collected by Dr. W. L. Abbott. Original number 2046. Catalogued July 29, 1903.

Well-made skin in good condition; skull perfect.

**Mus luteolus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 36, November 6, 1903.

104276. Skin and skull. Adult female. St. Matthew Island, Mergui Archipelago. January 15, 1900. Collected by Dr. W. L. Abbott. Original number 226. Catalogued November 5, 1905.

Well-made skin in good condition; skull perfect, except loss of right malar.

**Mus magnirostris** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 441, May 13, 1905.

125212. Skin and skull. Adult female. Zamboanga (old Spanish hospital), western Mindanao, Philippine Islands. January 15, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5639. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect, except for loss of left pterygoid.

**Mus masæ** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 32, November 6, 1903.

121822. Skin and skull. Adult female. Tana Masa, Batu Islands, off west coast of Sumatra. February 21, 1903. Collected by Dr. W. L. Abbott. Original number 2327. Catalogued August 2, 1903.

Well-made skin in good condition; skull perfect.

**Mus matthæus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 29, November 6, 1903.

104159. Skin and skull. Adult male. St. Matthew Island, Mergui Archipelago. January 18, 1900. Collected by Dr. W. L. Abbott. Original number 243. Catalogued November 3, 1900.

Well-made skin in good condition; skull perfect, except that pterygoids are broken.

**Mus mindanensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 442, May 13, 1905.

125274. Skin and skull. Adult male. Todaya (altitude 4,000 feet), Mount Apo, southern Mindanao, Philippine Islands. July 9, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5719. Catalogued December 13, 1904.

Fairly well-made skin in good condition; skull perfect, except that pterygoids are broken.

**Mus obscurus** Miller.

Proc. Wash. Acad. Sci., II, p. 213, August 20, 1900. Preoccupied by *Mus obscurus* Waterhouse. (Proc. Zool. Soc. London, V, p. 19, 1837.)

= **Mus pullus** Miller. Proc. Biol. Soc. Wash., XIV, p. 178, September 25, 1901.

101764. Skin and skull. Adult male. Pulo Tioman, off southeast coast of the Malay Peninsula. October 1, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Well-made skin in good condition, except tip of tail shriveled and a small bare spot on belly; skull perfect.



**Mus pagensis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 39, November 6, 1903.

121629. Skin and skull. Adult male. South Pagi Island, off west coast of Sumatra. December 23, 1902. Collected by Dr. W. L. Abbott. Original number 2153. Catalogued July 31, 1903.

Well-made skin in good condition; skull perfect.

**Mus pannosus** Miller.

Proc. Biol. Soc. Wash., XIII, p. 190, December 21, 1900.

104110. Skin and skull. Adult male. Pulo Adang, Butang Islands, west coast of Malay Peninsula. December 14, 1899. Collected by Dr. W. L. Abbott. Original number 146. Catalogued November 2, 1900.

Well-made skin in good condition; skull perfect.

**Mus pantarensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 448, May 13, 1905.

123294. Skin and skull. Adult female. Pantar (altitude 1,907 feet), Mindanao, Philippine Islands. September 4, 1903. Collected by Dr. E. A. Mearns, U. S. A. Original number 5622. Catalogued January 28, 1904.

Fairly well-made skin in good condition; skull perfect, except that pterygoids and right coronoid process are broken away.

**Mus pellax** Miller.

Proc. Biol. Soc. Wash., XIII, p. 147, April 21, 1900.

86755. Skin and skull. Adult female. Khow Sai Dow (1,000 feet), Trong (or Tarang), lower Siam. February 5, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition; skull perfect, except for loss of left malar and both pterygoids.

**Mus pulliventer** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 765, pl. 41, fig. 3; pl. 42, figs. 3, 3a; May 28, 1902.

111790. Skin and skull. Adult female. Great Nicobar Island, Nicobar Islands. March 12, 1901. Collected by Dr. W. L. Abbott. Original number 927. Catalogued August 14, 1901.

Well-made skin in good condition; skull perfect, except for loss of left malar.

**Mus tullbergi rostratus** Miller.

Proc. Wash. Acad. Sci., II, p. 637, December 28, 1900.

83836. Skin and skull. Adult male. Mount Coffee (400 to 500 feet), Liberia, West Africa. May 7, 1897. Collected by R. P. Currie. Original number 60. Catalogued September 30, 1897.

Well made skin in good condition; skull perfect.

**Mus serutus** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1481, p. 59, July 23, 1906.

125032. Skin and skull. Adult male. Pulo Serutu, Karimata Islands, off west coast of Borneo. August 17, 1904. Collected by Dr. W. L. Abbott. Original number 3590. Catalogued December 7, 1904.

Well-made skin in good condition; skull perfect.

**Mus siantanicus** Miller.

Proc. Wash. Acad. Sci., II, p. 210, fig. 11b, August 20, 1900.

101705. Skin and skull. Adult male. Pulo Siantan, Anamba Islands, South China Sea. September 11, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Fairly well-made skin in good condition; skull perfect, except for loss of both malars.

**Mus simalurensis** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 458, February 3, 1903.

114216. Skin and skull. Adult female. Simalur Island, off west coast of Sumatra. December 14, 1901. Collected by Dr. W. L. Abbott. Original number 1372. Catalogued August 27, 1902.

Well-made skin in good condition; skull perfect.

**Mus soccatus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 30, November 6, 1903.

121549. Skin and skull. Adult male. North Pagi Island, off west coast of Sumatra. December 29, 1902. Collected by Dr. W. L. Abbott. Original number 2183. Catalogued July 29, 1903.

Well-made skin in good condition; skull perfect.

**Mus stoicus** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 759, pl. 41, fig. 1; pl. 42, figs. 1, 1a, May 28, 1902.

111834. Skin and skull. Adult male. Henry Lawrence Island, Andaman Islands. January 9, 1901. Collected by Dr. W. L. Abbott. Original number 820. Catalogued August 15, 1901.

Well-made skin in good condition; skull slightly injured about the left pterygoid and left zygoma, left lower incisor broken off at alveolus, and left condyloid process lacking.

**Mus strepitans** Miller.

Proc. Wash. Acad. Sci., II, p. 207, August 20, 1900.

101697. Skin and skull. Adult female. Pulo Siantan, Anamba Islands, South China Sea. September 10, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect.

**Mus stridens** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 28, November 6, 1903.

104992. Skin and skull. Adult male. Tioman Island, off southeast coast of Malay Peninsula. October 10, 1900. Collected by Dr. W. L. Abbott. Original number 702. Catalogued January 2, 1901.

Well-made skin in good condition; skull perfect, except that it lacks the pterygoids.

**Mus stridulus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 29, November 6, 1903.

104196. Skin and skull. Adult female. Bentinck Island, Mergui Archipelago. March 12, 1900. Collected by Dr. W. L. Abbott. Original number 350. Catalogued November 5, 1900.

Well-made skin in good condition; skull perfect, except that the pterygoids are slightly injured.

**Mus surdus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 460, February 3, 1903.

114184. Skin and skull. Adult male. Simalur Island, off west coast of Sumatra. December 11, 1901. Collected by Dr. W. L. Abbott. Original number 1359. Catalogued August 26, 1902.

Well-made skin in good condition; skull perfect.

**Mus surifer** Miller.

Proc. Biol. Soc. Wash., XIII, p. 148, April 21, 1900.

86746. Skin and skull. Adult male. Khow Nok Ram (3,000 feet), Trong (or Tarang), lower Siam. January 14, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition, save for a break in tail and some damage to left hind leg, probably from jaws of trap; skull perfect, except for injury to pterygoids.

**Mus taciturnus** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 762, May 28, 1902.

111828. Skin and skull. Adult male. South Andaman Island, Andaman Islands. January 16, 1901. Collected by Dr. W. L. Abbott. Original number 854. Catalogued August 15, 1901.

Well-made skin in good condition; skull perfect.

**Mus tagulayensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 439, May 13, 1905.

125264. Skin and skull. Adult male. At sea level, Tagulaya, Gulf of Davao, foot of Mount Apo, southern Mindanao, Philippine Islands. July 15, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5732. Catalogued December 13, 1904.

Well-made skin in good condition; skull perfect, except for loss of pterygoids and right zygoma.

**Mus tambelanicus** Miller.

Proc. Wash. Acad. Sci., II, p. 212, fig. 11c, August 20, 1900.

101665. Skin and skull. Adult male. Big Tambelan Island, South China Sea. August 10, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition (tail met with an injury during life and is abnormally short); skull perfect, except for lack of right pterygoid.

**Mus tana** True.

Proc. U. S. Nat. Mus., XVI, No. 954, p. 602, October 25, 1893.

♂<sup>1994</sup>♀. Skin, skull, and body in alcohol. Adult female. Along the Tana River, between the coast and Hameye, British East Africa. November, 1892. Collected by Hon. William Astor Chanler and Lieut. Ludwig von Höhnel. Catalogued July 21, 1893.

The specimen was originally in alcohol, but at the time the species was described it was made up into a skin, in good condition; skull perfect.

**Mus tiomanicus** Miller.

Proc. Wash. Acad. Sci., II, p. 209, fig. 11a, August 20, 1900.

101763. Skin and skull. Adult male. Pulo Tioman, off southeast coast of Malay Peninsula. October 4, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Well-made skin in good condition; skull perfect.

**Mus todayensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 445, May 13, 1905.

125224. Skin and skull. Adult female. Todaya (altitude 4,000 feet), on Mount Apo, southern Mindanao, Philippine Islands. July 11, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5722. Catalogued December 21, 1904.

Well-made skin in good condition; skull perfect, except for lack of pterygoids.

**Mus umbridorsum** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 37, November 6, 1903.

104227. Skin and skull. Adult male. Loughborough Island, Mergui Archipelago. January 24, 1900. Collected by Dr. W. L. Abbott. Original number 269. Catalogued November 5, 1900.

Well-made skin in good condition; skull perfect, except for lack of pterygoids.

**Mus validus** Miller.

Proc. Biol. Soc. Wash., XIII, p. 141, pl. 3, fig. 1; pl. 4, fig. 1, April 21, 1900.

86741. Skin and skull. Adult male. Khow Sai Dow (1,000 feet), Trong (or Tarang), lower Siam. February 18, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition; skull perfect.

**Mus vitiensis** Peale. See page 289.

**Mus vociferans** Miller.

Proc. Biol. Soc. Wash., XIII, p. 138, pl. 3, fig. 3; pl. 4, fig. 3, April 21, 1900.

86736. Skin and skull. Adult male. Khow Sai Dow (1,000 feet), Trong (or Tarang), lower Siam. February 21, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition; skull perfect.

**Mus vulcani** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 446, May 13, 1905.

125216. Skin and skull. Adult male. Mount Apo (7,600 feet), southern Mindanao, Philippine Islands. June 26, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5674. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect except pterygoids and four occipital bones broken away.

**Mus zamboangæ** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 443, May 13, 1905.

125279. Skin and skull. Adult male. Zamboanga, western Mindanao, Philippine Islands. January 20, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5753. Catalogued December 13, 1904.

Well-made skin in good condition, a spot without hair on rump and adjoining part of tail; skull perfect.

Genus **CHIROPODOMYS**.**Chiropodomys niadis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 40, November 6, 1903.

121867. Skin and skull. Adult female. Lafau, Nias Island, off west coast of Sumatra. March 30, 1903. Collected by Dr. W. L. Abbott. Original number 2413. Catalogued August 2, 1903.

Well-made skin in good condition; skull perfect.

Genus **LIMNOMYS**.**Limnomys sibuanus** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 452, May 13, 1905.

125228. Skin and skull. Adult female. Mount Apo (altitude 6,600 feet), southern Mindanao, Philippine Islands. June 30, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5688. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect, except for lack of pterygoids.

## Genus TARSOMYS.

**Tarsomys apoensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 453, May 13, 1905.

125280. Adult male in alcohol, skull removed. Mount Apo (altitude 6,750 feet), southern Mindanao, Philippine Islands. July 5, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5706. Catalogued December 13, 1904.

Alcoholic in good condition; skull removed and perfect.

## Genus APOMYS.

**Apomys hylocætes** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 456, May 13, 1905.

125246. Skin and skull. Adult female. Mount Apo (altitude 6,000 feet), southern Mindanao, Philippine Islands. Collected by Dr. E. A. Mearns, U. S. A. Original number 5696. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect, except that the pterygoids are missing.

**Apomys insignis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 459, May 13, 1905.

125230. Skin and skull. Adult female. Mount Apo (altitude 6,000 feet), southern Mindanao, Philippine Islands. July 8, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5711. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect, except for lack pterygoids and right coronoid process missing.

**Apomys petræus** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 458, May 13, 1905.

125245. Skin and skull. Adult female. Mount Apo (altitude 7,600 feet), in southern Mindanao, Philippine Islands. June 30, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5690. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect, except for lack of pterygoids and malars.

## Genus LENOTHRIX.

**Lenothrix canus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 466, pl. 18, February 3, 1903.

114386. Skin and skull. Adult male. Pulo Tuanku, west coast of Sumatra. January 27, 1902. Collected by Dr. W. L. Abbott. Original number 1477. Catalogued August 29, 1902.

Well-made skin in good condition; skull perfect.

## Genus DASYMYS.

**Dasymys rufulus** Miller.

Proc. Wash. Acad. Sci., II, p. 639, fig. 40, December 28, 1900.

83844. Skin and skull. Adult male. Mount Coffee, Liberia, West Africa. March 30, 1897. Collected by R. P. Currie. Original number 19. Catalogued September 30, 1897.

Well-made skin in good condition; skull with a slight break in right zygoma; otherwise perfect.

## Genus ARVICANTHIS.

**Arvicanthis planifrons** Miller.

Proc. Wash. Acad. Sci., II, p. 641, fig. 41a, December 28, 1900.

83814. Skin and skull. Adult male. Mount Coffee, Liberia, West Africa. April 26, 1897. Collected by R. P. Currie. Original number 46. Catalogued September 23, 1897.

Well-made skin in good condition except a small naked area on belly; skull perfect. The specimen was first preserved in alcohol, but shortly after coming to the Museum it was made into a skin.

## Genus DENDROMYS.

**Dendromys nigrifrons** True.

Proc. U. S. Nat. Mus., XV, No. 915, p. 462, fig. 2, October 26, 1892.

$\frac{19783}{35263}$ . Alcoholic, with skull removed. Adult female. Mount Kilimanjaro (5,000 feet), German East Africa. November, 1889. Collected by Dr. W. L. Abbott. Original number 10. Catalogued September 26, 1891.

Alcoholic in fair condition. A few small bare spots, and the under side extensively cut open to remove skull, but it has been recently sewed up; skull perfect.

No type designated by number. A skull is figured and marked "typical specimen." An examination of the 5 specimens collected by Dr. Abbott shows that the figured skull is No. 35263, consequently the specimen to which it belongs may be regarded as the type.

## Genus GERBILLUS.

**Gerbillus arenicolor** Miller.

Proc. Biol. Soc. Wash., XIII, p. 163, October 31, 1900.

62153. Skin and skull. Adult male. In jungle on Yarkand River, east of Maralbashi, Eastern Turkestan. February 9, 1894. Collected by Dr. W. L. Abbott. Catalogued May 16, 1895.

Well-made skin in good condition; skull with left zygoma missing, otherwise perfect.

Type designated by number, which is given as 62143, an error for 62153.

## Genus SPALAX.

**Spalax berytensis** Miller.

Proc. Biol. Soc. Wash., XVI, p. 162, November 30, 1903.

$\frac{1}{3} \frac{3}{8} \frac{0}{8} \frac{0}{5} \frac{0}{5}$ . Skin and skull. Adult female. Beyrout, Syria. April, 1878. Collected by W. T. Van Dyck. Skin catalogued December 10, 1878; skull, June 26, 1894.

Fairly well-made skin in fair condition, a bare patch about chin and throat; skull perfect, except occipital bones broken away, both upper incisors and left lower incisor broken off to alveoli.

**Spalax dolbrogæ** Miller.

Proc. Biol. Soc. Wash., XVI, p. 161, November 30, 1903.

122109. Skin and skull. Adult male. Malcociu near Tulchea, Dobrogea (or Dobruja), Roumania. March 20, 1903. Purchased from Wilhelm Schlüter, of Halle a. S., Germany. Catalogued August 22, 1903.

Well-made skin in good condition; skull nearly perfect; pterygoids slightly injured, as well as root caps of lower incisors.

## Family MUSCARDINIDÆ.

## Genus ELIOMYS.

**Eliomys cincticauda** Miller.

Proc. Biol. Soc. Wash., XIV, p. 39, April 25, 1901.

103030. Skin and skull. Adult male. Sorrento, near Naples, Italy. May 31, 1900. Collected by Dane Coolidge. Original number 1118. Catalogued September 28, 1900.

Well-made skin in good condition; skull perfect.

**Eliomys parvus** True.

Proc. U. S. Nat. Mus., XVI, No. 954, p. 601, October 25, 1893.

$\frac{2}{3} \frac{1}{8} \frac{0}{8} \frac{0}{5} \frac{0}{5}$ . Skin and skull. Adult female. Along the Tana River, between the coast and Hameye, British East Africa. November, 1892. Collected by Hon. William Astor Chanler and Lieut. Ludwig von Höhnel. Catalogued July 21, 1893.

The specimen was originally in alcohol, but at the time the species was described it was made into a modern study skin, in good condition; skull perfect.

## Family APLODONTIDÆ.

## Genus APLODONTIA.

**Apodontia olympica** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIII, p. 20, January 31, 1899.

89549. Skin and skull. Young adult male. Queniult Lake, Olympic Mountains, Washington. July 24, 1897. Collected by R. T. Young. Original number 309.

Well-made skin in good condition; skull perfect.



**Aplodontia pacifica** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIII, pp. 19-20, January 31, 1899.

77372. Skin and skull. Adult female. Newport, Oregon. March 26, 1896 (not March 20, as in original description). Collected by B. J. Bretherton. Original number 2219.

Well-made skin in good condition; skull perfect.

**Aplodontia major rainieri** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIII, p. 21, January 31, 1899.

90144. Skin and skull. Adult male. Paradise Creek, Mount Rainier, Washington. August 6, 1897. Collected by V. Bailey. Original number 6122.

Well-made skin in good condition; skull perfect.

## Family CASTORIDÆ.

## Genus CASTOR.

**Castor canadensis frondator** Mearns.Preliminary Diagnoses of New Mammals of the Genera *Sciurus*, *Castor*, *Neotoma*, and *Sigmodon* from the Mexican Border of the United States, p. 2, March 5, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1132, p. 502, January 19, 1898.)
 $\frac{20750}{35883}$ . Skin and skull. Adult male. San Pedro River, Sonora, Mexico, near monument No. 98 of the Mexican boundary line. October 24, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 2151. International Boundary Commission. Catalogued January 6, 1893.

Well-made skin, but rather overstuffed, in good condition; skull perfect.

**Castor canadensis texensis** Bailey. Biological Survey collection.

North. Amer. Fauna, No. 25, pp. 122-124, October 24, 1905.

135744. Skin and skull. Cummings Creek, Colorado County, Texas. December 25, 1900. Collected by F. Brune. Kept in captivity until January 10, 1901. Original number 5139x.

Skin folded and flattened, having been made over after mounting; rump, underparts, and nose largely bare or with scattered patches of underfur; right fore leg missing; nails of hind toes mostly broken or absent; skull lacks occipital condyles and most of supraoccipital; left pterygoid and upper incisors broken.

## Family SCIURIDÆ.

## Genus NANNOSCIURUS.

**Nannosciurus bancanus** Lyon.

Proc. Biol. Soc. Wash., XIX, p. 55, May 1, 1906.

124880. Skin and skull. Adult female. Klabat Bay, island of Banka, east of Sumatra. June 24, 1904. Collected by Dr. W. L. Abbott. Original number 3430. Catalogued December 3, 1904.

Well-made skin in good condition; skull perfect.

**Nannosciurus borneanus** Lyon.

Proc. Biol. Soc. Wash., XIX, p. 54, May 1, 1906.

142271. Skin and skull. Adult female. Sanggau, western Borneo. August 23, 1905. Collected by Dr. W. L. Abbott. Original number 4368. Catalogued January 20, 1906.

Well-made skin in good condition; skull perfect, except loss of left  $pm^1$ , and right  $pm^1$ , and  $pm^2$ .

**Nannosciurus pulcher** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 153, June 11, 1902.

113131. Skin and skull. Adult female. Sinkep Island, Rhio-Linga Archipelago. September 4, 1901. Collected by Dr. W. L. Abbott. Original number 1274. Catalogued January 31, 1902.

Well-made skin in good condition; skull badly injured; all the posterior part of the cranium missing; both nasals and all the ascending part of the left half of the mandible also missing.

**Nannosciurus sumatranus** Lyon.

Proc. Biol. Soc. Wash., XIX, p. 53, May 1, 1906.

141058. Skin and skull. Adult male. Tarussan Bay, west coast of Sumatra. January 16, 1905. Collected by Dr. W. L. Abbott. Original number 3946. Catalogued July 19, 1905.

Well-made skin in good condition; skull lacks posterior half of brain-case, and left  $pm^1$ , right  $pm^1$ , and left  $pm_1$ .

## Genus MARMOTA.

**Arctomys olympus** Merriam. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1898, p. 352, August, 1898.

=*Marmota olympus* (Merriam). See Elliot, Check List of Mammals, etc., Field Columbian Mus., Zool. Ser., VI, p. 121, 1905.

90518. Skin and skull. Adult male. Head of Soleduck River, Olympic Mountains, Washington. August 27, 1897. Collected by Dr. C. Hart Merriam. Original number 6210 (V. Bailey).

Well-made skin in good condition; skull perfect.

## Genus CYNOMYS.

**Spermophilus gunnisoni** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 334, this paper was reported favorably for publication April 24, 1855.

=*Cynomys gunnisoni* (Baird). See Baird, Mammals of North America, p. 335, 1857.

$\frac{5.01}{1.838}$ . Skin (lost) and skull. Young adult. Cochetopa Pass, Saguache County, Colorado. September (first week), 1853. Collected by F. Kreutzfeldt, on expedition in charge of Capt. J. W. Gunnison,

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U. S. A., and after his death in charge of Lieut. E. G. Beckwith, U. S. A. Original number 22. Catalogued February 20, 1855.

Skin can not now be found. Most of the skull is present, posterior part of the brain case lacking, last two molars in right half of mandible are missing, one detached bulla is present.

The type is not designated by number in the original description, but in the Mammals of North America it is specified by number.

**Cynomys mexicanus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 157-158, July 27, 1892.

$\frac{26}{33} \frac{42}{33} \frac{3}{8}$ . Skin and skull. Adult male. La Ventura, Coahuila, Mexico. March 24, 1891. Collected by C. P. Streater. Original number 625.

Well-made skin in good condition; skull perfect, except for absence of right upper premolar.

Genus CITELLUS.

**Citellus plesius ablusus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, pp. 25-26, March 19, 1903.

119815. Skin and skull. Adult male. Nushagak, Alaska. September 16, 1902. Collected by W. H. Osgood and A. G. Maddren. Original number 2043.

Well-made skin in good condition; skull perfect.

**Citellus adocetus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, pp. 79-80, May 29, 1903.

126129. Skin and skull. Adult female. La Salada, Michoacan, Mexico. March 17, 1903. Collected by E. W. Nelson and E. A. Goldman. Original number 16183.

Well-made skin in good condition; skull perfect.

**Spermophilus tridecemlineatus alleni** Merriam. Biol. Surv. coll.

Proc. Biol. Soc. Wash., XII, p. 71, March 24, 1898.

=*Citellus tridecemlineatus alleni* (Merriam). See Trouessart, Catalogus Mammalium, Suppl., p. 341, 1904.

56050. Skin and skull. Adult male. West slope of Bighorn Mountains, Wyoming; altitude 8,000 feet. September 18, 1893. Collected by V. Bailey. Original number 4383.

Well-made skin in good condition; skull perfect.

**Spermophilus spilosoma annectens** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., VIII, pp. 132-133, December 28, 1893.

=*Citellus spilosoma annectens* (Merriam). See Trouessart, Catalogus Mammalium, Suppl., p. 340, 1904.

$\frac{30}{42} \frac{41}{36} \frac{0}{8}$ . Skin and skull. Young adult male. Padre Island, Texas. August 24, 1891. Collected by W. Lloyd. Original number 694.

Well-made skin in good condition; skull perfect, except for absence of left postorbital process.

**Spermophilus spilosoma arens** Bailey. Biological Survey coll.

Proc. Biol. Soc. Wash., XV, p. 118, June 2, 1902.

=**Citellus spilosoma arens** (Bailey). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXXI, p. 75, August, 1903.

64977. Skin and skull. Adult male. El Paso, Texas. May 10, 1894.  
Collected by Dr. A. K. Fisher. Original number 1446.

Well-made skin in good condition; skull perfect, except for absence of left auditory bulla.

**Spermophilus armatus** Kennicott. Cotypes.

Proc. Acad. Nat. Sci. Phila., 1863, p. 158, ordered published June 30, 1863.

=**Citellus armatus** (Kennicott). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Mus., Zool. Ser., VI, p. 112, 1905.

No numbers are mentioned in the original description. Kennicott briefly describes new spermophiles in the collection of the Smithsonian Institution, collected by C. Drexler at Fort Bridger, Utah, now Wyoming. Consequently, all the specimens from Fort Bridger collected by C. Drexler and in the collection prior to 1863 are evidently cotypes of the species. In the following list are included all the known specimens from Fort Bridger collected by Drexler. The labels all have *armatus* written on them, possibly in Kennicott's own hand, and they are entered in the catalogue as *Spermophilus armatus*. The skins were all collected in April to June of 1858, and the alcoholics were probably taken at the same time.

$\frac{34663}{4808}$ . Female. Skin, can not be found; anterior half of skull and mandible present. Original number 454. Collected May 26, 1858.

3464. Female. Very poor skin, torn in two; part of skull inside. Original number 728. Collected June 25, 1858.

$\frac{34666}{4808}$ . Male. Skin, can not be found; anterior half of skull and of mandible present. Original number 610.

3467. Male. Skin, can not be found; no record of a skull. Original number 261. Collected May 2, 1858.

3470. Female. Skin, can not be found; no record of a skull. Original number 455. Collected May 26, 1858.

$\frac{34776}{4798}$ . Skin and skull; neither can be found. Original number 167. Collected April 11, 1858.

3474. Skin, can not be found; no record of a skull. Original number 215. Collected April 14, 1858.

3475. Male. Skin, can not be found; no record of a skull. Original number 197. Collected April 14, 1858.

3476. Female. Very poor skin, torn in two: two loose detached legs present; part of skull inside. Original number 229. Collected April 15, 1858.

**Mus stridens** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 28, November 6, 1903.

104992. Skin and skull. Adult male. Tioman Island, off southeast coast of Malay Peninsula. October 10, 1900. Collected by Dr. W. L. Abbott. Original number 702. Catalogued January 2, 1901.

Well-made skin in good condition; skull perfect, except that it lacks the pterygoids.

**Mus stridulus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 29, November 6, 1903.

104196. Skin and skull. Adult female. Bentinck Island, Mergui Archipelago. March 12, 1900. Collected by Dr. W. L. Abbott. Original number 350. Catalogued November 5, 1900.

Well-made skin in good condition; skull perfect, except that the pterygoids are slightly injured.

**Mus surdus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 460, February 3, 1903.

114184. Skin and skull. Adult male. Simalur Island, off west coast of Sumatra. December 11, 1901. Collected by Dr. W. L. Abbott. Original number 1359. Catalogued August 26, 1902.

Well-made skin in good condition; skull perfect.

**Mus surifer** Miller.

Proc. Biol. Soc. Wash., XIII, p. 148, April 21, 1900.

86746. Skin and skull. Adult male. Khow Nok Ram (3,000 feet), Trong (or Tarang), lower Siam. January 14, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition, save for a break in tail and some damage to left hind leg, probably from jaws of trap; skull perfect, except for injury to pterygoids.

**Mus taciturnus** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 762, May 28, 1902.

111828. Skin and skull. Adult male. South Andaman Island, Andaman Islands. January 16, 1901. Collected by Dr. W. L. Abbott. Original number 854. Catalogued August 15, 1901.

Well-made skin in good condition; skull perfect.

**Mus tagulayensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 439, May 13, 1905.

125264. Skin and skull. Adult male. At sea level, Tagulaya, Gulf of Davao, foot of Mount Apo, southern Mindanao, Philippine Islands. July 15, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5732. Catalogued December 13, 1904.

Well-made skin in good condition; skull perfect, except for loss of pterygoids and right zygoma.

**Mus tambelanicus** Miller.

Proc. Wash. Acad. Sci., II, p. 212, fig. 11c, August 20, 1900.

101665. Skin and skull. Adult male. Big Tambelan Island, South China Sea. August 10, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition (tail met with an injury during life and is abnormally short); skull perfect, except for lack of right pterygoid.

**Mus tana** True.

Proc. U. S. Nat. Mus., XVI, No. 954, p. 602, October 25, 1893.

$\frac{2}{3}$   $\frac{1}{4}$   $\frac{0}{5}$   $\frac{4}{5}$ . Skin, skull, and body in alcohol. Adult female. Along the Tana River, between the coast and Hameye, British East Africa. November, 1892. Collected by Hon. William Astor Chanler and Lieut. Ludwig von Höhnel. Catalogued July 21, 1893.

The specimen was originally in alcohol, but at the time the species was described it was made up into a skin, in good condition; skull perfect.

**Mus tiomanicus** Miller.

Proc. Wash. Acad. Sci., II, p. 209, fig. 11a, August 20, 1900.

101763. Skin and skull. Adult male. Pulo Tioman, off southeast coast of Malay Peninsula. October 4, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Well-made skin in good condition; skull perfect.

**Mus todayensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 445, May 13, 1905.

125224. Skin and skull. Adult female. Todaya (altitude 4,000 feet), on Mount Apo, southern Mindanao, Philippine Islands. July 11, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5722. Catalogued December 21, 1904.

Well-made skin in good condition; skull perfect, except for lack of pterygoids.

**Mus umbridorsum** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 37, November 6, 1903.

104227. Skin and skull. Adult male. Loughborough Island, Mergui Archipelago. January 24, 1900. Collected by Dr. W. L. Abbott. Original number 269. Catalogued November 5, 1900.

Well-made skin in good condition; skull perfect, except for lack of pterygoids.

**Mus validus** Miller.

Proc. Biol. Soc. Wash., XIII, p. 141, pl. 3, fig. 1; pl. 4, fig. 1, April 21, 1900.

86741. Skin and skull. Adult male. Khow Sai Dow (1,000 feet), Trong (or Tarang), lower Siam. February 18, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition; skull perfect.

**Mus vitiensis** Peale. See page 289.

**Mus vociferans** Miller.

Proc. Biol. Soc. Wash., XIII, p. 138, pl. 3, fig. 3; pl. 4, fig. 3, April 21, 1900.

86736. Skin and skull. Adult male. Khow Sai Dow (1,000 feet), Trong (or Tarang), lower Siam. February 21, 1899. Collected by Dr. W. L. Abbott. Catalogued July 19, 1899.

Well-made skin in good condition; skull perfect.

**Mus vulcani** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 446, May 13, 1905.

125216. Skin and skull. Adult male. Mount Apo (7,600 feet), southern Mindanao, Philippine Islands. June 26, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5674. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect except pterygoids and four occipital bones broken away.

**Mus zamboangæ** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 443, May 13, 1905.

125279. Skin and skull. Adult male. Zamboanga, western Mindanao, Philippine Islands. January 20, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5753. Catalogued December 13, 1904.

Well-made skin in good condition, a spot without hair on rump and adjoining part of tail; skull perfect.

## Genus CHIROPODOMYS.

**Chiropodomys niadis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 40, November 6, 1903.

121867. Skin and skull. Adult female. Lafau, Nias Island, off west coast of Sumatra. March 30, 1903. Collected by Dr. W. L. Abbott. Original number 2413. Catalogued August 2, 1903.

Well-made skin in good condition; skull perfect.

## Genus LIMNOMYS.

**Limnomys sibuanus** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 452, May 13, 1905.

125228. Skin and skull. Adult female. Mount Apo (altitude 6,600 feet), southern Mindanao, Philippine Islands. June 30, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5688. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect, except for lack of pterygoids.

## Genus TARSOMYS.

**Tarsomys apoensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 453, May 13, 1905.

125280. Adult male in alcohol, skull removed. Mount Apo (altitude 6,750 feet), southern Mindanao, Philippine Islands. July 5, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5706. Catalogued December 13, 1904.

Alcoholic in good condition; skull removed and perfect.

## Genus APOMYS.

**Apomys hyllocœtes** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 456, May 13, 1905.

125246. Skin and skull. Adult female. Mount Apo (altitude 6,000 feet), southern Mindanao, Philippine Islands. Collected by Dr. E. A. Mearns, U. S. A. Original number 5696. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect, except that the pterygoids are missing.

**Apomys insignis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 459, May 13, 1905.

125230. Skin and skull. Adult female. Mount Apo (altitude 6,000 feet), southern Mindanao, Philippine Islands. July 8, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5711. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect, except for lack pterygoids and right coronoid process missing.

**Apomys petræus** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 458, May 13, 1905.

125245. Skin and skull. Adult female. Mount Apo (altitude 7,600 feet), in southern Mindanao, Philippine Islands. June 30, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5690. Catalogued December 12, 1904.

Well-made skin in good condition; skull perfect, except for lack of pterygoids and malars.

## Genus LENOTHRIX.

**Lenothrix canus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 466, pl. 18, February 3, 1903.

114386. Skin and skull. Adult male. Pulo Tuanku, west coast of Sumatra. January 27, 1902. Collected by Dr. W. L. Abbott. Original number 1477. Catalogued August 29, 1902.

Well-made skin in good condition; skull perfect.



## Genus DASYMYS.

**Dasymys rufulus** Miller.

Proc. Wash. Acad. Sci., II, p. 639, fig. 40, December 28, 1900.

83844. Skin and skull. Adult male. Mount Coffee, Liberia, West Africa. March 30, 1897. Collected by R. P. Currie. Original number 19. Catalogued September 30, 1897.

Well-made skin in good condition; skull with a slight break in right zygoma; otherwise perfect.

## Genus ARVICANTHIS.

**Arvicanthis planifrons** Miller.

Proc. Wash. Acad. Sci., II, p. 641, fig. 41a, December 28, 1900.

83814. Skin and skull. Adult male. Mount Coffee, Liberia, West Africa. April 26, 1897. Collected by R. P. Currie. Original number 46. Catalogued September 23, 1897.

Well-made skin in good condition except a small naked area on belly; skull perfect. The specimen was first preserved in alcohol, but shortly after coming to the Museum it was made into a skin.

## Genus DENDROMYS.

**Dendromys nigrifrons** True.

Proc. U. S. Nat. Mus., XV, No. 915, p. 462, fig. 2, October 26, 1892.

$1\frac{9}{32}$   $\frac{78}{32}$   $\frac{3}{32}$ . Alcoholic, with skull removed. Adult female. Mount Kilimanjaro (5,000 feet), German East Africa. November, 1889. Collected by Dr. W. L. Abbott. Original number 10. Catalogued September 26, 1891.

Alcoholic in fair condition. A few small bare spots, and the under side extensively cut open to remove skull, but it has been recently sewed up; skull perfect.

No type designated by number. A skull is figured and marked "typical specimen." An examination of the 5 specimens collected by Dr. Abbott shows that the figured skull is No. 35263, consequently the specimen to which it belongs may be regarded as the type.

## Genus GERBILLUS.

**Gerbillus arenicolor** Miller.

Proc. Biol. Soc. Wash., XIII, p. 163, October 31, 1900.

62153. Skin and skull. Adult male. In jungle on Yarkand River, east of Maralbashi, Eastern Turkestan. February 9, 1894. Collected by Dr. W. L. Abbott. Catalogued May 16, 1895.

Well-made skin in good condition; skull with left zygoma missing, otherwise perfect.

Type designated by number, which is given as 62143, an error for 62153.

## Genus SPALAX.

**Spalax berytensis** Miller.

Proc. Biol. Soc. Wash., XVI, p. 162, November 30, 1903.

$\frac{13}{3} \frac{00}{8} \frac{00}{5} \frac{00}{5}$ . Skin and skull. Adult female. Beyrout, Syria. April, 1878. Collected by W. T. Van Dyck. Skin catalogued December 10, 1878; skull, June 26, 1894.

Fairly well-made skin in fair condition, a bare patch about chin and throat; skull perfect, except occipital bones broken away, both upper incisors and left lower incisor broken off to alveoli.

**Spalax dolbrogæ** Miller.

Proc. Biol. Soc. Wash., XVI, p. 161, November 30, 1903.

122109. Skin and skull. Adult male. Malcociu near Tulchea, Dobrogea (or Dobruja), Roumania. March 20, 1903. Purchased from Wilhelm Schlüter, of Halle a. S., Germany. Catalogued August 22, 1903.

Well-made skin in good condition; skull nearly perfect; pterygoids slightly injured, as well as root caps of lower incisors.

## Family MUSCARDINIDÆ.

## Genus ELIOMYS.

**Eliomys cincticauda** Miller.

Proc. Biol. Soc. Wash., XIV, p. 39, April 25, 1901.

103030. Skin and skull. Adult male. Sorrento, near Naples, Italy. May 31, 1900. Collected by Dane Coolidge. Original number 1118. Catalogued September 28, 1900.

Well-made skin in good condition; skull perfect.

**Eliomys parvus** True.

Proc. U. S. Nat. Mus., XVI, No. 954, p. 601, October 25, 1893.

$\frac{21}{3} \frac{00}{8} \frac{00}{5} \frac{00}{5}$ . Skin and skull. Adult female. Along the Tana River, between the coast and Hameye, British East Africa. November, 1892. Collected by Hon. William Astor Chanler and Lieut. Ludwig von Höhnel. Catalogued July 21, 1893.

The specimen was originally in alcohol, but at the time the species was described it was made into a modern study skin, in good condition; skull perfect.

## Family APLODONTIDÆ.

## Genus APLODONTIA.

**Apلودontia olympica** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIII, p. 20, January 31, 1899.

89549. Skin and skull. Young adult male. Queniult Lake, Olympic Mountains, Washington. July 24, 1897. Collected by R. T. Young. Original number 309.

Well-made skin in good condition; skull perfect.

U. S. A., and after his death in charge of Lieut. E. G. Beckwith,  
U. S. A. Original number 22. Catalogued February 20, 1855.

Skin can not now be found. Most of the skull is present, posterior part of the brain case lacking, last two molars in right half of mandible are missing, one detached bulla is present.

The type is not designated by number in the original description, but in the Mammals of North America it is specified by number.

**Cynomys mexicanus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 157-158, July 27, 1892.

$\frac{3}{3} \frac{4}{3} \frac{2}{3}$ . Skin and skull. Adult male. La Ventura, Coahuila, Mexico. March 24, 1891. Collected by C. P. Streater. Original number 625.

Well-made skin in good condition; skull perfect, except for absence of right upper premolar.

#### Genus CITELLUS.

**Citellus plesius ablusus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, pp. 25-26, March 19, 1903.

119815. Skin and skull. Adult male. Nushagak, Alaska. September 16, 1902. Collected by W. H. Osgood and A. G. Maddren. Original number 2043.

Well-made skin in good condition; skull perfect.

**Citellus adocetus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, pp. 79-80, May 29, 1903.

126129. Skin and skull. Adult female. La Salada, Michoacan, Mexico. March 17, 1903. Collected by E. W. Nelson and E. A. Goldman. Original number 16183.

Well-made skin in good condition; skull perfect.

**Spermophilus tridecemlineatus alleni** Merriam. Biol. Surv. coll.

Proc. Biol. Soc. Wash., XII, p. 71, March 24, 1898.

=*Citellus tridecemlineatus alleni* (Merriam). See Trouessart, *Catalogus Mammalium*, Suppl., p. 341, 1904.

56050. Skin and skull. Adult male. West slope of Bighorn Mountains, Wyoming; altitude 8,000 feet. September 18, 1893. Collected by V. Bailey. Original number 4383.

Well-made skin in good condition; skull perfect.

**Spermophilus spilosoma annectens** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., VIII, pp. 132-133, December 28, 1893.

=*Citellus spilosoma annectens* (Merriam). See Trouessart, *Catalogus Mammalium*, Suppl., p. 340, 1904.

$\frac{3}{2} \frac{4}{3} \frac{1}{0}$ . Skin and skull. Young adult male. Padre Island, Texas. August 24, 1891. Collected by W. Lloyd. Original number 694.

Well-made skin in good condition; skull perfect, except for absence of left postorbital process.

**Spermophilus spilosoma arens** Bailey. Biological Survey coll.

Proc. Biol. Soc. Wash., XV, p. 118, June 2, 1902.

=*Citellus spilosoma arens* (Bailey). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXXI, p. 75, August, 1903.

64977. Skin and skull. Adult male. El Paso, Texas. May 10, 1894.  
Collected by Dr. A. K. Fisher. Original number 1446.

Well-made skin in good condition; skull perfect, except for absence of left auditory bulla.

**Spermophilus armatus** Kennicott. Cotypes.

Proc. Acad. Nat. Sci. Phila., 1863, p. 158, ordered published June 30, 1863.

=*Citellus armatus* (Kennicott). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Mus., Zool. Ser., VI, p. 112, 1905.

No numbers are mentioned in the original description. Kennicott briefly describes new spermophiles in the collection of the Smithsonian Institution, collected by C. Drexler at Fort Bridger, Utah, now Wyoming. Consequently, all the specimens from Fort Bridger collected by C. Drexler and in the collection prior to 1863 are evidently cotypes of the species. In the following list are included all the known specimens from Fort Bridger collected by Drexler. The labels all have *armatus* written on them, possibly in Kennicott's own hand, and they are entered in the catalogue as *Spermophilus armatus*. The skins were all collected in April to June of 1858, and the alcoholics were probably taken at the same time.

$\frac{3}{4}$  $\frac{4}{5}$  $\frac{3}{4}$ . Female. Skin, can not be found; anterior half of skull and mandible present. Original number 454. Collected May 26, 1858.

3464. Female. Very poor skin, torn in two; part of skull inside. Original number 728. Collected June 25, 1858.

$\frac{3}{4}$  $\frac{4}{5}$  $\frac{3}{4}$ . Male. Skin, can not be found; anterior half of skull and of mandible present. Original number 610.

3467. Male. Skin, can not be found; no record of a skull. Original number 261. Collected May 2, 1858.

3470. Female. Skin, can not be found; no record of a skull. Original number 455. Collected May 26, 1858.

$\frac{3}{4}$  $\frac{4}{5}$  $\frac{3}{4}$ . Skin and skull; neither can be found. Original number 167. Collected April 11, 1858.

3474. Skin, can not be found; no record of a skull. Original number 215. Collected April 14, 1858.

3475. Male. Skin, can not be found; no record of a skull. Original number 197. Collected April 14, 1858.

3476. Female. Very poor skin, torn in two; two loose detached legs present; part of skull inside. Original number 229. Collected April 15, 1858.

3478. Male. Skin, can not be found; no record of a skull. Original number 140. Collected April 2, 1858.
3481. Skin, can not be found; no record of a skull. Original number 375. Collected May 19, 1858.
5958. Alcoholic, can not be found.
5959. Alcoholic, can not be found.
5960. Alcoholic, can not be found.
- $\frac{4\frac{2}{3}}{1\frac{1}{4}}$ . Skin; can not be found; anterior half of skull and right half of mandible present. Remarks in catalogue say, "Died at S. I., after two years' confinement," so that it was probably collected at the time the others were taken and brought to Washington alive.
- 3463-3481. Skins. Catalogued March 3, 1859.
- 5958-5960. Alcoholics. Catalogued February 5, 1863.
4221. Skin. Catalogued October 27, 1860.
- All the skulls catalogued January 20, 1863.

**Spermophilus barrowensis** Merriam.

Proc. Wash. Acad. Sci., II, p. 19, March 14, 1900.

=*Citellus barrowensis* (Merriam). See Allen, Bull. Amer. Mus. Nat. Hist., XIX p. 141, March 31, 1903.

- $\frac{1\frac{4}{8}}{3\frac{6}{24}}$ . Skin and skull. Adult male. Point Barrow, Alaska. May 30, 1883. Collected by Lieut. P. L. Rae, U. S. A. Original number 1428. Skin catalogued January 16, 1884; skull December 4, 1899.

Well-made skin in good condition; skull perfect, except for loss of coronoid process of right half of mandible.

**Spermophilus beringensis** Merriam.

Proc. Wash. Acad. Sci., II, p. 20, March 14, 1900.

=*Citellus beringensis* (Merriam). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Mus., Zool. Ser., VI, p. 110, 1905.

15253. Skin; no skull. Adult male. Cape Lisburne (coal veins), Alaska. May, 1885. Collected by H. D. Wolfe. Catalogued December 3, 1885.

Fairly well-made skin in good condition.

**Spermophilus canescens** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, p. 38, October 8, 1890.

=*Citellus canescens* (Merriam). See Trouessart, Catalogus Mammalium, Suppl., p. 341, 1904.

- $\frac{1\frac{7}{8}}{4\frac{1}{16}}$ . Skin and skull. Immature male. Willcox, Cochise County, Arizona. November 16, 1889. Collected by V. Bailey. Original number 676.

Well-made skin in good condition; skull perfect.

**Spermophilus mollis canus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 70-71, March 24, 1898.

=*Citellus mollis canus* (Merriam). See Trouessart, *Catalogus Mammalium*, Suppl. p. 339, 1904.

78681. Skin and skull. Adult female. Antelope, Wasco County, Oregon. June 21, 1896. Collected by V. Bailey. Original number 5561.

Well-made skin in good condition; skull perfect.

**Spermophilus couchi** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 332, this paper was reported favorably for publication April 24, 1855.

=*Citellus variegatus couchi* (Baird). See Bailey, *North Amer. Fauna*, No. 25, p. 83, October 24, 1905.

$\frac{3.3}{12} \frac{8}{55}$ . Skin and skull. Santa Catarina (not on modern maps; see Baird, *Mammals of North America*, p. 713), a few miles west of Monterey, Nuevo Leon, Mexico. April, 1853. Collected by Lieut. D. N. Couch, U. S. A. Catalogued December 20, 1854.

The specimen was formerly mounted, but it has recently been made a study skin, in fair condition. Some hair has slipped from the underparts. Instead of being the "glossy black" described by Baird, it is now a blackish brown, probably due to exposure to light and consequent bleaching. Skull has left malar, left incisors, and the posterior parts involving the occipital bones, and left bulla, wanting.

Type not designated by number, but the measurements given in the original description agree exactly with those of No.  $\frac{3.3}{12} \frac{8}{55}$  given by Baird in *Mammals of North America*, p. 312.

**Spermophilus cryptospilotus** Merriam. Biol. Survey collection.

*North Amer. Fauna*, No. 3, pp. 57-58, pl. 9, figs. 1-3, September 4, 1890.

=*Citellus cryptospilotus* (Merriam). See Trouessart, *Catalogus Mammalium*, Suppl., p. 341, 1904.

$\frac{14.6}{24} \frac{16}{61} \frac{6}{12}$ . Skin and skull. Adult male. Tenebito Wash, Painted Desert Arizona. August 17, 1889. Collected by Dr. C. Hart Merriam. Original number 374.

Well-made skin in good condition; skull perfect, except for slight break in supraorbital border.

**Spermophilus elegans** Kennicott. Cotypes.

Proc. Acad. Nat. Sci. Phila., 1863, p. 158, ordered published at meeting of June 30, 1863.

=*Citellus elegans* (Kennicott). See Elliot, *Check List Mammals North Amer. Cont.*, etc., *Field Columbian Mus.*, Zool. Ser., VI, p. 113, 1905.

No numbers are mentioned in the original description. Kennicott briefly describes new spermophiles in the collection of the Smithsonian Institution. He speaks of *Spermophilus elegans* as coming from Fort Bridger, Utah (now Wyoming), and collected by

C. Drexler. Consequently all the specimens from Fort Bridger collected by C. Drexler and in the collection prior to 1863 become cotypes of the species. In the following list are included all the known specimens from Fort Bridger collected by Drexler. The labels all have *elegans* written on them, possibly in Kennicott's hand, and they are entered in the catalogue as *Spermophilus elegans*. The skins were collected in April and May of 1858 and the alcoholics were probably taken at the same time.

$\frac{346}{479}$ . Female. Skin, can not be found; skull, anterior half present and in fair condition; mandible lost. Original number 168. Collected April 11, 1858.

3469. Female. Very poor skin; no record of a skull. Original number 169. Collected April 11, 1858.

3473. Male. Skin, can not be found; no record of a skull. Original number 166. Collected April 11, 1858.

$\frac{347}{481}$ . Female. Well-made skin in good condition (remade in February, 1902); skull has most of mandible and upper tooth row and orbit of right side present. Original number 233. Collected April 17, 1858.

3480. Male. Very poor skin with part of skull inside. Original number 216. Collected April 14, 1858.

4003. Female. Very poor skin; has been mounted; fragmentary skull inside. Original number 3.

$\frac{535}{481}$ . Skin in alcohol; condition good; skull in good condition.

5951. Alcoholic; abdominal viscera removed; condition fair.

5952. Alcoholic; abdominal viscera removed; condition fair.

5953. Alcoholic; abdominal viscera removed; condition good.

5954. Alcoholic; abdominal viscera removed; young; condition poor.

5955. Body without feet or head, in alcohol; also a poor skin which has been mounted.

5956. Alcoholic; abdominal viscera removed; condition fair.

5957. Body without feet or head, in alcohol; no skin can be found.

Skins Nos. 3468-3480; catalogued March 3, 1859; No. 4003, June 18, 1860; alcoholic material in February, 1863; skulls January 20, 1863.

***Spermophilus beecheyi fisheri* Merriam.** Biological Survey coll.

Proc. Biol. Soc. Wash., VIII, pp. 133-134, December 28, 1893.

=*Citellus grammurus fisheri* (Merriam). See Trouessart, Catalogus Mammalium, Suppl., p. 336, 1904.

$\frac{2931}{4138}$ . Skin and skull. Adult male. Kern Valley, 25 miles above Kernville, California. July 6, 1891. Collected by Dr. A. K. Fisher. Original number 741.

Well-made skin in good condition, except for absence of a small patch of hair on the side of the abdomen; skull perfect.

**Spermophilus annulatus goldmani** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XV, p. 69, March 22, 1902.

=*Citellus annulatus goldmani* (Merriam). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXXI, p. 74, August, 1903.

91259. Skin and skull. Adult female. Santiago, Tepic, Mexico. June 18, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11223.

Well-made skin in good condition; skull perfect, except for small perforation in squamosal.

**Spermophilus spilosoma macropilotus** Merriam. Biol. Survey coll.

North Amer. Fauna, No. 4, p. 38, October 8, 1890.

=*Citellus spilosoma macropilotus* (Merriam). See Trouessart, Catalogus Mammalium, Suppl., p. 340, 1904.

$\frac{167}{23} \frac{155}{8} \frac{93}{3}$ . Skin and skull. Adult female. Oracle, Pinal County, Arizona. June 11, 1889. Collected by V. Bailey. Original number 129.

Well-made skin in good condition; skull perfect, except for small perforation in brain-case.

**Spermophilus spilosoma major** Merriam. Biological Survey coll.

North Amer. Fauna, No. 4, p. 39, October 8, 1890.

=*Citellus spilosoma major* (Merriam). See Trouessart, Catalogus Mammalium, Suppl., p. 340, 1904.

$\frac{177}{24} \frac{148}{14} \frac{93}{8}$ . Skin and skull. Adult female. Albuquerque, New Mexico. July 22, 1889. Collected by V. Bailey. Original number 225.

Well-made skin in good condition; skull perfect, except for absence of left post-orbital process and slight injuries to left zygoma, nasals, and right auditory meatus.

**Spermophilus spilosoma marginatus** Bailey. Biol. Survey coll.

Proc. Biol. Soc. Wash., XV, p. 118, June 2, 1902.

=*Citellus spilosoma marginatus* (Bailey). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXXI, p. 75, August, 1903.

108927. Skin and skull. Adult male. Alpine, Texas. July 5, 1901. Collected by V. Bailey. Original number 7702.

Well-made skin in good condition; skull perfect, except for several small shot perforations; left coronoid and condyle missing.

**Spermophilus mollis** Kennicott. Cotypes.

Proc. Acad. Nat. Sci. Phila., 1863, p. 157, ordered published at meeting of June 30, 1863.

=*Citellus mollis* (Kennicott). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Mus., Zool. Ser., VI, p. 112, 1905.

$\frac{377}{4} \frac{171}{1}$ . Skin and skull. Camp Floyd, Utah (now near Fairfield). March 18, 1859. Collected by C. S. McCarthy during "explora-



tions with the army in Utah" under Capt. J. H. Simpson, U. S. A. Original number 164. Skin catalogued February 21, 1860, skull, January, 1863.

Skin remade in February, 1902, in good condition. The skull has most of the brain-case lacking, otherwise it is in good condition.

3775. Skin. Another cotype from the same place and by the same collector, can not be found. Catalogued February 21, 1860.

No type is designated by Kennicott. The specimens are referred to as coming from Camp Floyd and the Rocky Mountains in Utah, and collected by C. Drexler and C. S. McCarthy. The above two specimens are the only ones that fulfill these requirements. Nos.  $\frac{4801}{2}$  and 4953 are catalogued as coming from the Rocky Mountains and doubtfully collected by Drexler. In view of this uncertainty in regard to the Rocky Mountain specimens, it seems best to restrict the cotypes to the Camp Floyd specimens, which is the better course, since it gives the species a definite type-locality. Camp Floyd is considered the type-locality by Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXX, p. 53, December, 1901.

### **Citellus nebulicola** Osgood.

Proc. Biol. Soc. Wash., XVI, p. 26, March 19, 1903.

59145. Skin and skull. Adult female. Nagai Island, Shumagin Islands, Alaska. June 24, 1893. Collected by C. H. Townsend. Catalogued February 5, 1895.

Fairly well-made skin in good condition; skull perfect.

### **Spermophilus spilosoma obsidianus** Merriam. Biol. Survey coll.

North Amer. Fauna, No. 3, pp. 56-57, September 4, 1890.

=*Citellus spilosoma obsidianus* (Merriam). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Mus., Zool. Ser., VI, p. 100, 1905.

$\frac{176}{24} \frac{114}{10}$ . Skin and skull. Adult male. Cedar belt northeast of San Francisco Mountain, Arizona. October 1, 1889. Collected by V. Bailey. Original number 557.

Well-made skin in fair condition; underparts somewhat grease-stained; skull perfect, except for perforation in supraoccipital.

### **Spermophilus obsoletus** Kennicott. Cotypes.

Proc. Acad. Nat. Sci. Phila., 1863, p. 157, ordered published at meeting of June 30, 1863.

=*Citellus obsoletus* (Kennicott). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Museum, Zool. Ser., VI, p. 99, 1905.

No type is designated in the description. The species is based upon specimens in the collection of the Smithsonian Institution, from "Nebraska" (including the present Nebraska, Wyoming, and Dakotas), collected by Doctors Suckley, Cooper, and Hayden. The following seven specimens answer to these requirements and are undoubtedly the ones Kennicott had. This leaves the type-locality rather indefinite. It is the general region of the present western Nebraska.

3140. Skin. Male. Fort Laramie, Wyoming, formerly Nebraska Territory. Collected September 22, 1857, by Dr. J. G. Cooper. Original number 62. Skin lost.
- $\frac{3}{4}$  $\frac{1}{3}$  $\frac{1}{4}$  $\frac{1}{3}$ . Skin and skull. Fort Laramie, Wyoming, formerly Nebraska Territory. September 30, 1857. Collected by Dr. J. G. Cooper. Original number 67. Skin lost. Most of skull present but badly broken.
- $\frac{3}{3}$  $\frac{2}{7}$  $\frac{2}{8}$  $\frac{2}{8}$ . Skin. Female. Fifty miles west of Fort Kearney, Nebraska. August 9, 1857. Collected by Dr. J. G. Cooper. Original number 44. Fair skin, remade February, 1902. Skull in fair condition; broken about the brain case posteriorly.
3223. Skin. Female. One hundred and twenty miles west of Fort Kearney, Nebraska. August 16, 1857. Collected by Dr. J. G. Cooper. Original number 45. Skin lost.
- $\frac{3}{4}$  $\frac{2}{3}$  $\frac{1}{4}$  $\frac{1}{4}$ . Skin and skull. Female. One hundred and thirty miles west of Fort Kearney, Nebraska. August 17, 1857. Collected by Dr. J. G. Cooper. Original number 47. Poor skin; most of skull present, but it is broken in two across the brain case.
3225. Skin. Male. Same data as 3224. Original number 48. Wretched skin, without feet; part of skull inside.
- $\frac{3}{4}$  $\frac{2}{3}$  $\frac{2}{8}$  $\frac{2}{8}$ . Skin and skull. Black Hills, South Dakota, formerly Nebraska Territory. Collected by Dr. F. V. Hayden. Neither skin nor skull can be found.
- Skins catalogued 1857-1858; skulls in 1863, except No. 37998, catalogued in February, 1902.

**Spermophilus oregonus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 69, March 24, 1898.

=*Citellus oregonus* (Merriam). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Mus., Zool. Ser., VI, p. 113, 1905.

89177. Skin and skull. Adult female. Swan Lake Valley, Klamath Basin, Oregon. June 12, 1897. Collected by V. Bailey. Original number 6005.

Well-made skin in good condition; skull perfect, except for several small shot perforations.

**Spermophilus osgoodi** Merriam.

Proc. Wash. Acad. Sci., II, p. 18, March 14, 1900.

=*Citellus osgoodi* (Merriam). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Museum, Zool. Ser., VI, p. 110, 1905.

- $\frac{1}{3}$  $\frac{1}{4}$  $\frac{1}{3}$  $\frac{1}{2}$  $\frac{1}{2}$ . Skin and skull. Adult male. Fort Yukon, Alaska. April 29, 1877. Collected by Lucien M. Turner. Original number 1635. Skin catalogued November 15, 1877; skull, December 4, 1899.

Well-made skin in good condition. Most of the brain-case of the skull has been broken away; left zygomatic arch complete, right broken away; both upper incisors broken off to the roots; left half of mandible perfect, the parts posterior to the molars of the right half of mandible broken off.

**Spermophilus mexicanus parvidens** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 1, March 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XVIII, No. 1075, May 23, 1896, p. 443.)

=*Citellus mexicanus parvidens* (Mearns). See Stone and Rehn, Proc. Acad. Nat. Sci. Phila., 1903, p. 21, May 7, 1903.

63073. Skin and skull. Adult male. Fort Clark, Kinney County, Texas. March 21, 1893. Collected by Dr. E. A. Mearns, U. S. A. Original number 2312. Catalogued January 14, 1896.

Well-made skin in good condition; skull perfect, except for an irregular hole in top of brain-case.

**Spermophilus perotensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VIII, pp. 131-132, December 28, 1893.

=*Citellus perotensis* (Merriam). See Elliot, Mamms. Middle Amer. and W. I., Field Columbian Mus., Zool. Ser., IV, p. 145, 1904.

54274. Skin and skull. Adult female. Perote, Vera Cruz, Mexico. June 8, 1893. Collected by E. W. Nelson. Original number 4976.

Well-made skin in good condition; skull perfect.

**Spermophilus empetra plesius** Osgood. Biological Survey coll.

North Amer. Fauna, No. 19, pp. 29-30, October 6, 1900.

=*Citellus plesius* (Osgood). See Osgood, Proc. Biol. Soc. Wash., XVI, p. 25, March 19, 1903.

98931. Skin and skull. Adult female. Bennett, head of Lake Bennett, British Columbia. June 19, 1899. Collected by W. H. Osgood. Original number 465.

Well-made skin in good condition; skull perfect.

**Spermophilus spilosoma pratensis** Merriam. Biol. Survey coll.

North Amer. Fauna, No. 3, pp. 55-56, September 4, 1890.

=*Citellus spilosoma pratensis* (Merriam). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Mus., Zool. Ser., VI, p. 100, 1905.

$\frac{176}{48} \frac{55}{33}$ . Skin and skull. Adult female. Pine plateau at north base of San Francisco Mountain, Arizona. August 5, 1889. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 285.

Well-made skin in good condition; skull perfect.

**Citellus stejnegeri** Allen.

Bull. Amer. Mus. Nat. Hist., XIX, p. 142, March 31, 1903.

63226. Skin and skull. Male (?), young. Near Petropaulski, south-eastern Kamchatka. 1895. Collected by Dr. L. Stejneger. Catalogued March 27, 1896.

Flat skin; all parts present and apparently in good condition; skull nearly perfect; permanent premolars not yet in place; slightly injured about left zygoma and left pterygoid, a hole in supraoccipital.

**Spermophilus mollis stephensi** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XII, pp. 69-70, March 24, 1898.

=*Citellus mollis stephensi* (Merriam). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Mus., Zool. Ser., VI, p. 112, 1905.

$\frac{29}{41} \frac{48}{68} \frac{32}{47}$ . Skin and skull. Adult male. Queen Station, near head of Owens Valley, Esmeralda County, Nevada. July 12, 1891. Collected by F. Stephens. Original number 718.

Well-made skin in good condition; skull perfect, except for absence of first left upper premolar and slightly injured left pterygoid and angular process of mandible.

**Spermophilus tereticaudus** Baird. Cotypes.

Mammals of North America, p. 315, pl. 67, fig. 2, head and feet, probably No. 2490; pl. 81, fig. 4, skull No. 2419, 1857.

=*Citellus tereticaudus* (Baird). See Elliot, Field Columbian Museum, Zool. Ser., III, p. 211, 1904.

No type is designated by Baird. The description is apparently equally based upon these three specimens, which are specified by number:

$\frac{15}{24} \frac{34}{48}$ . Skin and skull. A not fully adult male. Skin in bad condition; most of hair on the posterior half of body, except the legs and tail, is lacking; skull perfect, except the two small upper premolars lacking.

1585. Skin of the head and neck. The body is said to be in alcohol, but can not be found.

2490. A young female in alcohol. All the hair behind the shoulders, except that on the feet and tail, has sloughed off.

All the specimens were collected at Fort Yuma, Arizona, by Maj. G. H. Thomas, U. S. A. Skins catalogued June 24, 1856, the alcoholic, April 9, 1857.

**Spermophilus mollis yakimensis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XII, p. 70, March 24, 1898.

=*Citellus mollis yakimensis* (Merriam). See Elliot, Check List Mammals North Amer. Cont., etc., Field Columbian Mus., Zool. Ser., VI, p. 112, 1905.

89331. Skin and skull. Adult male. Mabton, Yakima County, Washington. July 16, 1897. Collected by Dr. W. K. Fisher. Original number 323.

Well-made skin in good condition; skull perfect.

## Genus AMMOSPERMOPHILUS.

**Tamias leucurus cinnamomeus** Merriam. Biological Survey coll.

North Amer. Fauna, No. 3, pp. 51-53, September 4, 1890.

=*Ammospermophilus leucurus cinnamomeus* (Merriam). See Mearns, Bull. U. S. Nat. Mus., No. 56, Pt. 1, p. 299, April 13, 1907.

$\frac{11}{2} \frac{13}{8} \frac{8}{4}$ . Skin and skull. Adult female. Echo Cliffs, Painted Desert, Arizona. September 22, 1889. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 510.

Well-made skin in good condition; skull perfect, except for fractured basioccipital and supraoccipital.

**Tamias interpres** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, pp. 21-22, October 8, 1890.

=**Ammospermophilus leucurus interpres** (Merriam). See Mearns, Bull. U. S. Nat. Mus., No. 56, Pt. 1, p. 301, April 13, 1907.

$\frac{11}{2} \frac{11}{6} \frac{6}{6} \frac{2}{6}$ . Skin and skull. Adult female. El Paso, Texas. December 10, 1889. Collected by V. Bailey. Original number 762.

Well-made skin in good condition; skull perfect.

**Spermophilus nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VIII, pp. 129-131, December 28, 1893.

=**Ammospermophilus nelsoni** (Merriam).

54651. Skin and skull. Adult male. Tipton, Tulare County, California. June 24, 1893. Collected by C. P. Streater. Original number 2968.

Well-made skin in good condition; skull perfect.

**Spermophilus harrisi saxicolus** Mearns.

Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, p. 2, March 25, 1896. (Reprinted in Proc. U. S. Nat. Mus., XVIII, No. 1075, p. 444, May 23, 1896.)

=**Ammospermophilus harrisi saxicola** (Mearns). See Mearns, Bull. U. S. Nat. Mus., No. 56, Pt. 1, p. 306, April 13, 1907.

59869. Skin and skull. Adult female. Tinajas Altas, Gila Mountains, Yuma County, Arizona. February 17, 1894. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 2983. Catalogued April 12, 1894.

Well-made skin in good condition; skull perfect.

#### Genus CALLOSPERMOPHILUS.

**Spermophilus chrysodeirus brevicaudus** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., VIII, p. 134, December 28, 1893. Preoccupied by *Spermophilus brevicauda* Brandt (Bull. Acad. St. Petersburg, 1844, II, p. 369).

*Spermophilus bernardinus* Merriam. Science, new ser., VIII, p. 782, December 2, 1898.

=**Callospermophilus bernardinus** (Merriam). See Mearns, Bull. U. S. Nat. Mus., No. 56, Pt. 1, p. 313, April 13, 1907.

56661. Skin and skull. Adult female. San Bernardino Peak, California. October 9, 1893. Collected by J. E. McLellan. Original number 274.

Well made skin in good condition; skull perfect, except for small perforation in meatus and broken angular processes of mandible.

**Tamias castanurus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, p. 19, October 8, 1890.

=*Callospermophilus castanurus* (Merriam).

$\frac{3}{2} \frac{13}{13} \frac{3}{7}$ . Skin and skull. Adult male. Park City, Summit County, Utah. July 3, 1890. Collected by V. Bailey. Original number 1383.

Well-made skin in good condition; skull perfect, except for a few small shot perforations.

**Callospermophilus madrensis** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., III, p. 563, November 29, 1901.

95363. Skin and skull. Adult female. Sierra Madre, near Guadalupe y Calvo, Chihuahua, Mexico. August 27, 1898. Collected by E. W. Nelson and E. A. Goldman. Original number 12923.

Well-made skin in good condition; skull perfect, except for absence of last right upper molar.

**Callospermophilus chrysoideirus trinitatis** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 126, July 19, 1901.

95531. Skin and skull. Adult female. Trinity Mountains east of Hoopa Valley, California. September 10, 1898. Collected by V. Bailey. Original number 6693.

Well-made skin in good condition; skull perfect.

## Genus EUTAMIAS.

**Tamias alpinus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VIII, pp. 137-138, December 28, 1893.

=*Eutamias alpinus* (Merriam). See Merriam, *op. cit.*, XI, p. 191, July 1, 1897.

$\frac{3}{4} \frac{5}{2} \frac{9}{4} \frac{7}{7}$ . Skin and skull. Young adult female. Big Cottonwood Meadows, near Mount Whitney, California; altitude 10,000 feet. August 12, 1891. Collected by Dr. B. H. Dutcher, U. S. A. Original number 191.

Well-made skin in good condition; skull perfect.

**Eutamias pallidus cacodemus** Cary. Biological Survey collection.

Proc. Biol. Soc. Wash., XIX, pp. 89-90, June 4, 1906.

138737 (not 138137, as in original description). Skin and skull. Young adult male. Sheep Mountain, Big Badlands, South Dakota. September 2, 1905. Collected by M. Cary. Original number 682.

Well-made skin in good condition; skull perfect.

- Tamias callipeplus** Merriam. Biological Survey collection.  
 Proc. Biol. Soc. Wash., VIII, pp. 136-137, December 28, 1893.  
 =**Eutamias speciosus callipeplus** (Merriam). See Merriam, *op. cit.*, XI, p. 202,  
 July 1, 1897.
- $\frac{31299}{43184}$ . Skin and skull. Young adult male. Summit of Mount  
 Pinos, Ventura County, California; altitude 9,000 feet. October  
 20, 1891. Collected by E. W. Nelson. Original number 1344.  
 Well-made skin in good condition; skull perfect, except for slight break in  
 supraorbital border.
- Eutamias canicaudus** Merriam. Biological Survey collection.  
 Proc. Biol. Soc. Wash., XVI, p. 77, May 29, 1903.
- $\frac{27993}{34423}$ . Skin and skull. Adult female. Spokane, Washington. April  
 11, 1891. Collected by C. P. Streater. Original number 639.  
 Well-made skin in good condition; skull perfect.
- Eutamias caniceps** Osgood. Biological Survey collection.  
 North Amer. Fauna, No. 19, pp. 28-29, October 6, 1900.
99200. Skin and skull. Adult female. Lake Lebarge, Yukon,  
 Canada. July 13, 1899. Collected by W. H. Osgood. Original  
 number 603.  
 Well-made skin in good condition; skull perfect.
- Eutamias cinereicollis canipes** Bailey. Biological Survey coll.  
 Proc. Biol. Soc. Wash., XV, p. 117, June 2, 1902.
109229. Skin and skull. Adult female. Guadalupe Mountains,  
 Texas. August 24, 1901. Collected by V. Bailey. Original  
 number 7827.  
 Well-made skin in good condition; skull perfect, except for broken tip of nasals  
 and absence of right coronoid process of mandible.
- Eutamias minimus caryi** Merriam. Biological Survey collection.  
 Proc. Biol. Soc. Wash., XXI, p. 143, June 9, 1908.
150740. Skin and skull. Young adult male. Medano Ranch, San  
 Luis Valley, Colorado. October 24, 1907. Collected by M. Cary.  
 Original number 1176.  
 Well-made skin in good condition; skull perfect.
- Eutamias caurinus** Merriam. Biological Survey collection.  
 Proc. Acad. Nat. Sci. Phila., 1898, pp. 352-353, October 4, 1898.
90636. Skin and skull. Adult male. Timber line near head of Sole-  
 duck River, Olympic Mountains, Washington. August 27, 1897.  
 Collected by Dr. C. Hart Merriam. Original number 6211 (V.  
 Bailey).  
 Well-made skin in good condition; skull perfect.

**Tamias cinereicollis** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., III, pp. 94-96, June, 1890.

=**Eutamias cinereicollis** (Allen). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXX, p. 40, December, 1901.

$\frac{11\frac{1}{2}}{3}\frac{3\frac{1}{2}}{3}$ . Skin and skull. Adult female. San Francisco Mountain, Arizona. August 2, 1889. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 260 (V. Bailey).

Well-made skin in good condition; skull perfect, except for absence of right postorbital process.

**Tamias cooperi** Baird. Cotype.

Proc. Acad. Nat. Sci. Phila., VII, p. 334, this paper was reported favorably for publication April 24, 1855.

=**Eutamias cooperi** (Baird). See Lyon, Smithsonian Miscell. Coll., L, No. 1713, p. 89, June 27, 1907.

$\frac{21\frac{1}{2}}{3}\frac{1\frac{1}{2}}{3}$ . Skin and skull. Klickitat Pass, Cascade Mountains (4,500 feet), Skamania County, Washington. (See Cooper, American Naturalist, II, p. 531; Baird's published statements regarding the locality are inaccurate.) July, 1853. Collected by Dr. J. G. Cooper. Skin catalogued January 30, 1854; skull October, 1853.

Skin is well preserved, and in June, 1902, was remade into a modern study skin. The posterior half of the brain-case and right zygoma lacking.

No.  $\frac{21\frac{1}{2}}{3}\frac{1\frac{1}{2}}{3}$  is another cotype, having the same data as the above, but it can not be found.

No type is designated in the original description, but on page 301, Mammals North America, Baird refers to Nos. 211 and 212 as the ones he had in view when *Tamias cooperi* was first described.

**Tamias dorsalis** Baird. Cotypes.

Proc. Acad. Nat. Sci. Phila., VII, p. 332, this paper was reported favorably for publication April 24, 1855.

=**Eutamias dorsalis** (Baird). See Merriam, Proc. Biol. Soc. Wash., XI, p. 210, July 1, 1897.

120. Mounted specimen (which has a skull inside). Fort Webster, copper mines of the Mimbres River; lat. 32°, 47', long. 108°, 04'. Near the present Georgetown, Grant county, New Mexico. 1851. Collected by J. H. Clark. Catalogued March 31, 1853.

In fair condition. Some skin is broken about the chin and about right fore leg, and tip of tail is missing.

$\frac{11\frac{1}{2}}{3}\frac{1\frac{1}{2}}{3}$ . Data as above. Skin catalogued March 31, 1853; skull, April 10, 1857. Only the mandible of this specimen can be found.

These specimens were designated by number by Baird as the basis of *Tamias dorsalis* on page 300 of the Mammals of North America, 1857.



**Tamias quadrivittatus gracilis** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., III, pp. 99-101, June, 1890.

=**Eutamias quadrivittatus gracilis** (Allen). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXX, p. 44, December, 1901.

$\frac{111}{111}$  $\frac{44}{44}$ . Skin and skull. Adult female. San Pedro, New Mexico. July 4, 1889. Collected by V. Bailey. Original number 166.

Well-made skin in good condition; skull perfect.

**Eutamias hopiensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, p. 165, June 29, 1905.

67768. Skin and skull. Adult female. Kean Canyon, Navajo County, Arizona. July 27, 1894. Collected by Dr. A. K. Fisher. Original number 1688.

Well-made skin in good condition; skull perfect.

**Eutamias speciosus inyoensis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XI, p. 208, July 1, 1897.

$\frac{22}{11}$  $\frac{33}{16}$  $\frac{7}{7}$ . Skin and skull. Young adult male. White Mountains, Inyo County, California. July 7, 1891. Collected by E. W. Nelson. Original number 1069.

Well-made skin in good condition; skull with interorbital region fractured and right half of brain case in fragments.

**Tamias quadrivittatus luteiventris** Allen.

Bull. Amer. Mus. Nat. Hist., III, p. 101, June, 1890.

=**Eutamias quadrivittatus luteiventris** (Allen). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXX, p. 44, December 27, 1901.

$\frac{11}{11}$  $\frac{33}{33}$  $\frac{44}{44}$  $\frac{8}{8}$ . Skin and skull. Adult male. Chief Mountain Lake, northern boundary of Montana. August 24, 1874. Collected by Dr. Elliott Coues on the U. S. Northern Boundary Survey. Skin catalogued October 21, 1874; skull, February 1, 1902.

Remade in February, 1902, into a modern study skin, in good condition. A skull was found inside. It is somewhat injured about the optic foramina and pterygopalatal region; last left upper molar is lost; condyloid process of right half of mandible lacking.

**Tamias minimus melanurus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, p. 22, October 8, 1890.

=**Eutamias minimus pictus** (Allen). See Merriam, North Amer. Fauna, No. 5, p. 46, July 30, 1891.

$\frac{22}{30}$  $\frac{33}{44}$  $\frac{44}{44}$ . Skin and skull. Adult male. Snake River, near Blackfoot, Idaho. July 17, 1890. Collected by V. Bailey and Dr. B. H. Dutcher, U. S. A. Original number 1451.

Well-made skin in good condition; skull lacks right upper premolars and first molar, right postorbital process, part of right audital bulla, and most of left parietal.

**Tamias obscurus** Allen.

Bull. Amer. Mus. Nat. Hist., III, pp. 70-71, June, 1890.

=*Eutamias obscurus* (Allen). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXX, p. 42, December 27, 1901.

$\frac{180}{24} \frac{50}{49} \frac{50}{54}$ . Skin and skull. Adult female. San Pedro Martir Mountains, Lower California, Mexico. May 1, 1889. Collected by C. H. Townsend. Original number 7. Catalogued January 21, 1890.

Well-made skin in good condition, but no wire in tail; skull perfect.

**Eutamias townsendi ochrogenys** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XI, pp. 195, 206-207, July 1, 1897.

67182. Skin and skull. Adult male. Mendocino, California. July 17, 1894. Collected by J. E. McLellan. Original number 1015.

Well-made skin in good condition; skull perfect, except for absence of post-orbital processes and first left upper premolar.

**Eutamias amœnus operarius** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XVIII, pp. 164-165, June 29, 1905.

129808. Skin and skull. Young adult female. Gold Hill, Colorado. October 8, 1903. Collected by V. Bailey. Original number 8160.

Well-made skin in good condition; skull perfect.

**Eutamias oreocetes** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 207-208, July 1, 1897.

72468. Skin and skull. Adult female. Timber line, near Summit, Teton Mountains, Montana. June 14, 1895. Collected by V. Bailey. Original number 5024.

Well-made skin in good condition; skull perfect.

**Tamias quadrivittatus pallidus** Allen. Lectotype.

Proc. Bost. Soc. Nat. Hist., XVI, p. 289, 1874.

=*Eutamias pallidus* (Allen). See Cary, Proc. Biol. Soc. Wash., XIX, p. 87, June 4, 1906.

$\frac{116}{38} \frac{56}{31} \frac{56}{41}$ . Skin and skull. Nearly adult. Camp Thorne (near present town of Glendive), Yellowstone River, Montana. July 18, 1873. Collected by Dr. J. A. Allen. Original number 200. Skin catalogued January 1874; skull, May 18, 1906.

Skull originally had skull inside, but in 1906 the skull was removed and the specimen made into a modern study skin, now in good condition. The skull lacks all the occipital bones and one bulla; otherwise in good condition.

For regarding this specimen a lectotype out of a series of cotypes from widely separated localities and representing more than one form, see Cary, Proc. Biol. Soc. Wash., XIX, p. 88, under "Remarks."

**Eutamias palmeri** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 208-210, July 1, 1897.

♂♂ $\frac{9}{11}$ . Skin and skull. Adult male. Charleston Peak, Nevada. February 13, 1891. Collected by Dr. T. S. Palmer and E. W. Nelson. Original number 432.

Well-made skin in good condition; skull perfect.

**Tamias panamintinus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VIII, pp. 134-135, December 28, 1893.

=*Eutamias panamintinus* (Merriam). See Merriam, *op. cit.*, XI, p. 191, July 1, 1897.

♂♂ $\frac{9}{11}$ . Skin and skull. Adult male. Panamint Mountains, Inyo County, California. April 3, 1891. Collected by E. W. Nelson. Original number 723.

Well-made skin in good condition; skull perfect.

**Eutamias senescens** Miller.

Proc. Acad. Nat. Sci. Phila., 1898, p. 349, October 4, 1898.

83395. Skin and skull. Adult female. Low barren hills, 15 miles west of Peking, China. August 21, 1896. Collected by George D. Wilder. Catalogued March 6, 1897.

Well-made skin in good condition; skull perfect, except that right posterior half of brain-case is broken away.

## Genus TAMIOPS.

**Sciurus novemlineatus** Miller.

Proc. Biol. Soc. Wash., XVI, p. 147, November 12, 1903.

=*Tamiops novemlineatus* (Miller).

84403. Skin and skull. Adult male. One thousand five hundred feet elevation in heavy forest among the hills of Trong (or Tarang), lower Siam. February 19, 1897. Collected by Dr. W. L. Abbott. Catalogued March 25, 1898.

Well-made skin in good condition; skull perfect, except that the left ramus of mandible is lacking.

## Genus SCIURUS.

**Sciurus abbotti** Miller.

Proc. Wash. Acad. Sci., II, p. 224, August 20, 1900.

101662. Skin and skull. Adult female. Big Tambelan Island, Tambelan Islands, South China Sea. August 10, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus adangensis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 17, November 6, 1903.

104389. Skin and skull. Adult male. Pulo Adang, Batu Islands, off west coast of Sumatra. December 14, 1899. Collected by Dr. W. L. Abbott. Original number 153. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus alleni** Nelson.

Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 147-148, June 3, 1898.

25734. Skin and skull. Adult male. Monterey, Nuevo Leon, Mexico. February 22, 1891. Collected by C. P. Streater. Original number 563.

Well-made skin in good condition; skull perfect.

**Sciurus altinsularis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 21, November 6, 1903.

111975. Skin and skull. Adult female. High Island, Mergui Archipelago. December 31, 1900. Collected by Dr. W. L. Abbott. Original number 810. Catalogued August 20, 1901.

Well-made skin in good condition; skull perfect.

**Sciurus anambensis** Miller.

Proc. Wash. Acad. Sci., II, p. 223, August 20, 1900.

101686. Skin and skull. Adult female. Pulo Siantan, Anamba Islands, South China Sea. September 12, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus fossor anthonyi** Mearns.

Preliminary Diagnoses of New Mammals of the Genera *Sciurus*, *Castor*, *Neotoma*, and *Sigmodon*, from the Mexican Border of the United States, p. 1, March 5, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1132, p. 501, January 19, 1898.)

60928. Skin and skull. Adult female. Campbell's ranch, Laguna, San Diego County, California. June 10, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3642. Catalogued November 14, 1894.

Well-made skin in good condition; skull perfect, except for a few shot holes in brain-case.

**Sciurus aoris** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 10, November 6, 1903.

112418. Skin and skull. Adult female. Pulo Aor, off the coast of Johore. June 5, 1901. Collected by Dr. W. L. Abbott. Original number 1002. Catalogued November 12, 1901.

Well-made skin in good condition; skull perfect, except for two shot holes on superior surface and one just above right bulla.

**Sciurus arizonensis** Coues.

Amer. Nat., I, p. 357, footnote, September, 1867.

<sup>8475</sup><sub>87807</sub>. Skin and skull. Female. Fort Whipple, Arizona. December 20, 1865. Collected by Dr. Elliott Coues. Skin catalogued April 16, 1866; skull, November 1, 1898.

Specimen has evidently been mounted, but it has been made into a good study skin. The floor of the brain-case has been broken out, otherwise the skull is complete.

In the catalogue, No. 8475 is recorded as having been collected on December 6, 1864. Dr. Coues says (*loc. cit.*): The only specimen he obtained was shot December 20, 1865. Dr. Allen, in his list, on page 741, Monographs of North American Rodentia, gives the same date, probably taken from Coues, who was working with him, or from an original label which is now lost. Dr. Coues refers to no number as type in his description, but Dr. Allen, ten years later, in table (*loc. cit.*), under "Remarks," states that specimen no. 8475 is the type of *S. arizonensis*.

In the skull catalogue under "Remarks" is written: "Skull taken from mounted type, not naturally attached to skin, and it is very doubtful if it is the type skull. Oct. 31/98."

**Sciurus atratus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 13, November 6, 1903.

121524. Skin and skull. Adult female. North Pagi Island, off west coast of Sumatra. November 22, 1902. Collected by Dr. W. L. Abbott. Original number 2087. Catalogued July 29, 1903.

Well-made skin in good condition; skull perfect.

**Sciurus hudsonicus baileyi** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., X, pp. 261-262, July 22, 1898.

56040. Skin and skull. Adult male. West slope of Bighorn Mountains, Wyoming. 8,400 feet altitude. September 19, 1893. Collected by V. Bailey. Original number 4390.

Well-made skin in good condition; skull perfect.

**Sciurus balæ** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 14, November 6, 1903.

121799. Skin and skull. Adult male. Tana Bala, Batu Islands, west coast Sumatra. February 12, 1903. Collected by Dr. W. L. Abbott. Original number 2282. Catalogued August 2, 1903.

Well-made skin in good condition, but tail was damaged during life and only 23 mm. remain; skull perfect, except loss of left small upper premolar and second right lower molar and left angular process of mandible.

**Sciurus yucatanensis baliolus** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 131, August 9, 1901.

107939. Skin and skull. Adult male. Apazote, Campeche, Mexico. January 8, 1901. Collected by E. A. Goldman. Original number 14428.

Well-made skin in good condition; skull perfect, except for broken mandible; posterior portion of right ramus missing; left ramus broken, but with teeth and processes intact.

**Sciurus bancarus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 451, February 3, 1903.

114311. Skin and skull. Adult male. Pulo Bangkaru, Banjak Islands, off west coast of Sumatra. January 17, 1902. Collected by Dr. W. L. Abbott. Original number 1422. Catalogued August 28, 1902.

Well-made skin in good condition; skull perfect, except both small upper pre-molars lacking.

**Sciurus boothiæ belti** Nelson. Biological Survey collection.

Proc. Wash. Acad. Sci., I, pp. 78-79, pl. 2, figs. 1, 5, May 9, 1899.

34377. Skin and skull. Adult female. Escondido River, 50 miles from Bluefields, Nicaragua. October 12, 1892. Collected by Dr. C. W. Richmond. Original number 124.

Well-made skin in good condition; skull perfect, except for a few shot perforations.

**Sciurus bentincanus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 19, November 6, 1903.

104383. Skin and skull. Adult female. Bentinck Island, Mergui Archipelago. March 11, 1900. Collected by Dr. W. L. Abbott. Original number 349. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus bilimitatus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 8, November 6, 1903.

105072. Skin and skull. Adult female. Tanjong Laboha, Tringanu, Malay Peninsula. September 29, 1900. Collected by C. Boden Kloss. Original number (Dr. W. L. Abbott) 671. Catalogued January 4, 1901.

Well-made skin in good condition; skull perfect, except for shot holes in base and vault of cranium.

**Sciurus billitonus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 592, December 18, 1906.

124977. Skin and skull. Adult female. Buding Bay, Billiton Island, between Sumatra and Borneo. August 5, 1904. Collected by Dr. W. L. Abbott. Original number 3539. Catalogued December 6, 1904.

Well-made skin in good condition; skull perfect.

**Sciurus carimataë Miller.**

Proc. U. S. Nat. Mus., XXXI, No. 1481, p. 57, July 23, 1906.

125076. Skin and skull. Adult male. Telok Pai, Karimata Island, off west coast of Borneo. August 27, 1904. Collected by Dr. W. L. Abbott. Original number 3662. Catalogued December 8, 1904.

Well-made skin in good condition; skull perfect, except slight injury to right condyloid process of mandible.

**Sciurus carimonensis Miller.**

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 261, September 11, 1906.

122800. Skin and skull. Adult female. Great Karimon Island, Rhio-Linga Archipelago. May 24, 1903. Collected by Dr. W. L. Abbott. Original number 2423. Catalogued January 20, 1904.

Well-made skin in good condition; skull nearly perfect, a few small shot injuries.

**Sciurus douglasii cascadenis Allen.** Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., X, pp. 277-278, July 22, 1898.

80229. Skin and skull. Adult male. Mount Hood, Oregon. September 9, 1896. Collected by V. Bailey. Original number 5874.

Well-made skin in good condition; skull perfect, except for a few small shot perforations.

**Sciurus casensis Miller.**

Smithsonian Miscell. Coll., XLV, No. 1420, p. 20, November 6, 1903.

104370. Skin and skull. Adult female. Chance Island, Mergui Archipelago. December 28, 1899. Collected by Dr. W. L. Abbott. Original number 185. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus castanotus Baird.**

Proc. Acad. Nat. Sci. Phila., VII, p. 332, reported favorably for publication April 24, 1855 (typographical error for *castanonotus*). *Sciurus castanonotus* Baird, Mammals of North America, p. 266, 1857.

=*Sciurus aberti* Woodhouse. See Allen, Monographs North American Rodentia, p. 735, 1877.

1107<sup>1</sup>. Skin and skull. Adult female. Coppermines, near the present site of Georgetown, Grant County, New Mexico. (On page 707 of Mammals of North America, Baird says of Coppermines, "A former station of the United States-Mexican Boundary Survey, subsequently called Fort Webster. Not indicated clearly whether on a tributary of the Gila or Mimbres. About latitude 33°, longitude 108°." In his original description the specimen is spoken

of as coming from the Mimbres. 1851. Collected by J. H. Clark. Catalogued March 31, 1853.

The specimen has evidently been made over into a modern study skin, quite complete except for the tail, which is rather fragmentary; skull perfect.

No numbers are referred to in the original description, but in the Mammals of North America it is seen that there were two specimens, an adult female and a young. Measurements of a skull are given in the first description, which apply to the adult female, no. 1137. Hence it is regarded as the type.

**Sciurus griseoflavus chiapensis** Nelson. Biological Survey coll.

Proc. Wash. Acad. Sci., I, pp. 69-70, May 9, 1899.

75957. Skin and skull. Adult male. San Cristobal, Chiapas, Mexico. September 22, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8447.

Well-made skin in good condition; skull perfect.

**Sciurus socialis cocos** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 155-156, June 3, 1898.

70644. Skin and skull. Adult male. Acapulco, Guerrero, Mexico. January 11, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7360.

Well-made skin in good condition; skull perfect, except for broken right auditral bulla.

**Sciurus albipes colimensis** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 152, June 3, 1898.

=*Sciurus poliopus colimensis* (Nelson). See Nelson, Proc. Wash. Acad. Sci., I, p. 52, May 9, 1899.

33197. Skin and skull. Adult male. Hacienda Magdalena, Colima, Mexico. March 19, 1892. Collected by E. W. Nelson and E. A. Goldman. Original number 2239.

Well-made skin in good condition; skull perfect.

**Sciurus aberti concolor** True.

Diagnoses of New North American Mammals, p. 1, April 26, 1894. (Reprinted in Proc. U. S. Nat. Mus., XVII, No. 999, p. 241, November 15, 1894.) Preoccupied by *Sciurus concolor* Blyth (Journ. Asiat. Soc. Bengal XXIV, p. 474, 1855.)

=*Sciurus aberti ferreus* True. Proc. Biol. Soc. Wash., XIII, p. 183, November 30, 1900.

21423. Skin and skull. Adult female. Loveland, Larimer County, Colorado. Collected by William G. Smith. Catalogued October 30, 1893.

Skin in good condition, but not made up in form of a modern study skin; skull perfect, except for a few minor chippings.



**Sciurus condurensis** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 260, September 11, 1906.

122876. Skin and skull. Adult female. Pulo Kundur, Rhio-Linga Archipelago. June 13, 1903. Collected by Dr. W. L. Abbott. Original number 2486. Catalogued January 21, 1904.

Well-made skin in good condition; skull nearly perfect, left zygoma lacking and last left upper molar shot away.

**Sciurus domelicus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 18, November 6, 1903.

104381. Skin and skull. Adult female. Domel Island, Mergui Archipelago. February 24, 1900. Collected by Dr. W. L. Abbott. Original number 322. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus dorsalis** Woodhouse.

Proc. Acad. Nat. Sci. Phila., VI, p. 110, reported favorably for publication June 29, 1852. (Name preoccupied; see Gray, Proc. Zool. Soc. Lond., 1848, p. 138.)

=**Sciurus aberti** Woodhouse. Proc. Acad. Nat. Sci. Phila., VI, p. 220, requested to be published December 28, 1852.

2430. Skin, no skull. San Francisco Mountain, Arizona, on the routes of Captains Sitgreaves and Whipple, about lat. 35° and long. 111° 30'. October, 1851. Collected by Dr. S. W. Woodhouse. Catalogued April 4, 1857.

The specimen was formerly mounted, but it has since been taken down and made into a fairly good study skin. The first description reads: "This beautiful squirrel I procured whilst attached to the expedition under the command of Capt. L. Sitgreaves, Topographical Engineer, U. S. Army, exploring the Zuni and the Great and Little Colorado rivers of the West in the month of October, 1851, in the San Francisco Mountain, New Mexico." This statement makes it practically certain that the above specimen is the one on which Dr. Woodhouse based his description.

**Sciurus albigipes effugius** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 152-153, June 3, 1898.

=**Sciurus poliopus effugius** (Nelson). See Nelson, Proc. Wash. Acad. Sci., I, p. 54, May 9, 1899.

70288. Skin and skull. Adult female. Mountains near Chilpancingo, Guerrero, Mexico. December 24, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 7271.

Well-made skin in good condition; skull perfect, except for broken alisphenoid.

**Sciurus erebus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 456, February 3, 1903.

=**Sciurus piceus** Peters. See Lyon, Proc. U. S. Nat. Mus., XXXIV, No. 1626, p. 638, 1908.

114537. Skin and skull. Adult female. Tapanuli Bay, west coast of Sumatra. March 17, 1902. Collected by Dr. W. L. Abbott. Original number 1653. Catalogued September 2, 1902.

Well-made skin in good condition; skull perfect.

**Sciurus fossor** Peale. See page 290.

**Sciurus aureogaster frumentor** Nelson. Biological Survey coll.

Proc. Biol. Soc. Wash., XII, pp. 154-155, June 3, 1898.

54259. Skin and skull. Adult male. Las Vigas, Vera Cruz, Mexico. June 18, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 5073.

Well-made skin in good condition; skull perfect, except for absence of last two right upper molars and last left upper molar.

**Sciurus goldmani** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 149-150, June 3, 1898.

77903. Skin and skull. Adult male. Huehuetan, Chiapas, Mexico. February 28, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9435.

Well-made skin in good condition; skull perfect.

**Sciurus hippurellus** Lyon.

Smithsonian Miscell. Coll., L, No. 1705, p. 27, fig. 12*b*, April 8, 1907.

142274. Skin and skull. Adult female. Batu Ampar, Landak River, western Borneo. July 11, 1905. Collected by Dr. W. L. Abbott. Original number 4260. Catalogued January 20, 1906.

Well-made skin in good condition; skull perfect, except loss of two minute upper premolars.

**Sciurus hippurosus** Lyon.

Smithsonian Miscell. Coll., L, No. 1705, p. 26, fig. 12*a*, April 8, 1907.

141031. Skin and skull. Adult female. Tarussan Bay, west coast of Sumatra. December 18, 1904. Collected by Dr. W. L. Abbott. Original number 3826. Catalogued July 19, 1905.

Well-made skin in good condition; skull with a few shot holes in cranium, most of the left half of the mandible destroyed by shot, and right lower incisor shot off at alveolus.

**Sciurus nelsoni hirtus** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 153-154, June 3, 1898.

55325. Skin and skull. Adult male. Tochimilco, Puebla, Mexico. August 7, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 5295.

Well-made skin in good condition; skull perfect, except for broken pterygoids.

**Sciurus ictericus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 12, November 6, 1903.

121727. Skin and skull. Adult female. Tana Bala, Batu Islands, off west coast Sumatra. February 4, 1903. Collected by Dr. W. L. Abbott. Original number 2223. Catalogued August 1, 1903.

Well-made skin in good condition; skull perfect.

**Sciurus (Microsciurus) isthmus** Nelson.

Bull. Amer. Mus. Nat. Hist., XII, p. 77, fig. 1, April 14, 1899.

$\frac{3399}{3734}$ . Skin and skull. Truando River, northwestern Colombia. Collected by Dr. A. Schott. Original number 232. Received from Lieut. N. Michler, U. S. A. Skin catalogued March 1, 1859; skull, March 25, 1898.

Skin in rather poor condition, tail imperfect; most of the posterior basal portion of the brain case of the skull has been cut away.

**Sciurus kaibabensis** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 129-130, June 9, 1904.

130982. Skin and skull. Adult male. Bright Angel Creek, top of Kaibab Plateau, Grand Canyon, Arizona. December 1, 1903. Collected by J. T. Stewart. Original number 4470x.

Well-made skin in good condition; skull with zygomata, pterygoids, left auditral bulla, and angular processes of mandible broken.

**Sciurus klossi** Miller.

Proc. Wash. Acad. Sci., II, p. 225, fig. 13b, August 20, 1900.

101678. Skin and skull. Adult male. Kajua Ara, or Saddle Island, of the Tambelan Islands, South China Sea. August 15, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus lancavenis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 16, November 6, 1903.

104390. Skin and skull. Adult male. Pulo Lankawi, off west coast of Malay Peninsula. December 1, 1899. Collected by Dr. W. L. Abbott. Original number 101. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus lautensis** Miller.

Proc. Wash. Acad. Sci., III, p. 128, March 26, 1901.

104683. Skin and skull. Adult female. Pulo Laut, Natuna Islands. August 6, 1900. Collected by Dr. W. L. Abbott. Original number 612. Catalogued December 17, 1900.

Well-made skin in good condition; skull perfect, except posterior portion of left half of mandible has been shot away.

**Sciurus (Heliosciurus) rufobrachiatus libericus** Miller.

Proc. Wash. Acad. Sci., II, p. 633, December 28, 1900.

83834. Skin and skull. Adult male. Mount Coffee, Liberia, West Africa. March 22, 1897. Collected by R. P. Currie. Original number 16. Catalogued September 30, 1897.

Well-made skin in good condition; skull perfect.

**Sciurus limitis** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 331, this paper was reported favorably for publication April 24, 1855.

=**Sciurus niger limitis** (Baird). See Osgood, Proc. Biol. Soc. Wash., XX, p. 45 April 18, 1907.

$\frac{351}{1255}$ . Skin (lost) and skull. Devils River, Texas. Collected by J. H. Clark, United States and Mexican Boundary Survey, under Maj. W. H. Emory, U. S. A. Catalogued December 12, 1854.

Skin can not be found; skull perfect, except for loss of left pterygoid and a small piece out of left angular process of mandible.

The original description says, "Collected by J. H. Clark on Devil's River, Texas," and by referring to Baird's Mammals of North America, p. 256, it is seen, that this specimen is no.  $\frac{351}{1255}$ , which is consequently considered the type.

**Sciurus lungungensis** Miller.

Proc. Wash. Acad. Sci., III, p. 123, March 26, 1901.

104693. Skin and skull. Adult male. Pulo Lungung, off the southern extremity of Bunguran Island, Natuna Islands. June 19, 1900. Collected by Dr. W. L. Abbott. Original number 494. Catalogued December 17, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus socialis littoralis** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XX, pp. 87-88, December, 1907.

71322. Skin and skull. Adult female. Puerto Angel, Oaxaca, Mexico. March 11, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7627.

Well-made skin in good condition; skull perfect, except for absence of two molars, left pterygoid, and adjacent part of the floor of the brain-case.

**Sciurus lucas** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 20, November 6, 1903.

104385. Skin and skull. Adult female. St. Luke Island, Mergui Archipelago. January 20, 1900. Collected by Dr. W. L. Abbott. Original number 256. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect, except that the right pterygoid is defective.

**Sciurus lutescens** Miller.

Proc. Wash. Acad. Sci., III, p. 124, March 26, 1901.

104668. Skin and skull. Adult male. Sirhassen Island Natuna Islands. June 3, 1900. Collected by Dr. W. L. Abbott. Original number 429. Catalogued December 17, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus boothiæ managuensis** Nelson.

Proc. Biol. Soc. Wash., XIII, p. 150, June 3, 1898.

=*Sciurus managuensis* (Nelson). See Nelson, Proc. Wash. Acad. Sci., I, p. 81, May 9, 1899.

62476. Skin and skull. Adult male. Along the Managua River, Guatemala. February 12, 1895. Collected by Mrs. C. McElroy. Catalogued June 26, 1895.

Well-made skin in good condition; skull perfect.

**Sciurus mansalaris** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 451, February 3, 1903.

114633. Skin and skull. Adult male. Pulo Mansalar, off Tapanuli Bay, west coast of Sumatra. March 2, 1902. Collected by Dr. W. L. Abbott. Original number 1583. Catalogued September 3, 1902.

Well-made skin in good condition; skull perfect.

**Sciurus matthæus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 19, November 6, 1903.

111920. Skin and skull. Adult female. St. Matthew Island, Mergui Archipelago. December 11, 1900. Collected by Dr. W. L. Abbott. Original number 774. Catalogued August 17, 1901.

Well-made skin in good condition; skull perfect.

**Sciurus hudsonius mearnsi** Townsend.

Proc. Biol. Soc. Wash., XI, p. 146, June 9, 1897.

=*Sciurus mearnsi* (Townsend). See Allen, Bull. Amer. Mus. Nat. Hist., X, p. 286, July 22, 1898.

$\frac{1}{2}$   $\frac{2}{3}$   $\frac{2}{3}$   $\frac{6}{7}$ . Skin and skull. San Pedro Martir Mountains, at about 7,000 feet, Lower California, Mexico. May, 1889. Collected by C. H. Townsend. Catalogued February 15, 1890.

Well-made skin in good condition; skull perfect.

**Sciurus melanops** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 151, June 11, 1902.

113152. Skin and skull. Adult female. Indragiri River, eastern Sumatra. September 15, 1901. Collected by Dr. W. L. Abbott. Original number 1307. Catalogued February 3, 1902.

Well-made skin in good condition; skull perfect, except for loss of both minute upper premolars.

**Sciurus mendanauus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 589, December 18, 1906.

124916. Skin and skull. Adult male. Pulo Mendanau, west coast of Billiton Island, between Sumatra and Borneo. July 14, 1904. Collected by Dr. W. L. Abbott. Original number 3475. Catalogued December 5, 1904.

Well-made skin in good condition; skull perfect.

**Sciurus mimellus** Miller.

Proc. Wash. Acad. Sci., II, p. 218, August 20, 1900.

101668. Skin and skull. Adult male. Pulo Wai, Tambelan Islands, South China Sea. August 13, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus mimiculus** Miller.

Proc. Wash. Acad. Sci., II, p. 219, August 20, 1900.

101616. Skin and skull. Adult male. Santa Barbe Island, South China Sea. August 1, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect, except right lower incisor broken off, first right upper premolar and last upper molar on left side missing.

**Sciurus aberti mimus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 130, June 9, 1904.

70908. Skin and skull. Adult female. Hall Peak, Cimarron Mountains, New Mexico. January 16, 1895. Collected by C. M. Barber. Original number 61.

Well-made skin in good condition; skull perfect, except for absence of right upper premolars and end of left pterygoid.

**Sciurus notatus miniatus** Miller.

Proc. Wash. Acad. Sci., II, p. 79, July 25, 1900.

84415. Skin and skull. Adult female. Trong (or Tarang), lower Siam. February 25, 1897. Collected by Dr. W. L. Abbott. Catalogued March 25, 1898.

Well-made skin in good condition; skull perfect.

**Sciurus negligens** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 147, June 3, 1898.

93028. Skin and skull. Adult female. Alta Mira, Tamaulipas, Mexico. April 18, 1898. Collected by E. A. Goldman. Original number 12319.

Well-made skin in good condition; skull with nasals and left jugal missing, and left mandibular ramus broken.

**Sciurus nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VIII, p. 144, December 29, 1893.

51157. Skin and skull. Adult female. Huitzilac, Morelos, Mexico. January 1, 1893. Collected by E. W. Nelson. Original number 4144.

Well-made skin in good condition; skull perfect.

**Sciurus albipes nemoralis** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 151, June 3, 1898.

=**Sciurus poliopus nemoralis** (Nelson). See Nelson, Proc. Wash. Acad. Sci., I, p. 50, May 9, 1899.

$\frac{3.5}{4.7} \frac{3.5}{6.2} \frac{5.8}{8.3}$ . Skin and skull. Adult male. Patzcuaro, Michoacan, Mexico. July 23, 1892. Collected by E. W. Nelson and E. A. Goldman. Original number 2905.

Well-made skin in good condition; skull perfect.

**Sciurus fremonti neomexicanus** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., X, p. 291, July 22, 1898.

71690. Skin and skull. Adult male. Rayado Canyon, Colfax County, New Mexico. April 1, 1895. Collected by C. M. Barber. Original number 89.

Well-made skin in good condition; skull perfect.

**Sciurus colliæi nuchalis** Nelson. Biological Survey collection.

Proc. Wash. Acad. Sci., I, pp. 59-60, May 9, 1899.

$\frac{3.2}{4.4} \frac{6.5}{8.0} \frac{5.1}{8.0}$ . Skin and skull. Adult male. Manzanillo, Colima, Mexico. February 2, 1892. Collected by E. W. Nelson. Original number 1828.

Well-made skin in good condition; skull perfect, except for absence of second left upper premolar; right audital bulla and pterygoids slightly broken.

**Sciurus borneoensis palustris** Lyon.

Proc. U. S. Nat. Mus., XXXIII, No. 1577, p. 553, December 24, 1907.

142330. Skin and skull. Adult male. North bank of the Kapuas River, below Pulo Limbang, western Borneo. September 22, 1905. Collected by Dr. W. L. Abbott. Original number 4467. Catalogued January 22, 1906.

Well-made skin in good condition; skull perfect, except slight injury to both angular processes of mandible.

**Sciurus pannovianus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 11, November 6, 1903.

112351. Skin and skull. Adult male. Pulo Pannow, Atas Islands, South China Sea. May 28, 1901. Collected by Dr. W. L. Abbott. Original number 952. Catalogued November 8, 1901.

Well-made skin in good condition; skull perfect, shot hole back of right supra-orbital process.

**Sciurus parvus** Miller.

Proc. Biol. Soc. Wash., XIV, p. 33, April 5, 1901.

84509. Skin and skull. Adult male. Nulu, Sarawak, Borneo; altitude 1,000 feet. October, 1894. Collected by Charles Hose. Catalogued April 12, 1898.

Well-made skin in good condition; skull slightly broken about the foramen magnum, otherwise complete.

**Sciurus pemangilensis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 9, November 6, 1903.

112460. Skin and skull. Adult female. Pulo Pemangil, off coast of Johore. June 12, 1901. Collected by Dr. W. L. Abbott. Original number 1062. Catalogued November 13, 1901.

Well-made skin in good condition; skull perfect, except small holes in left bulla.

**Sciurus peninsularis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 10, November 6, 1903. See Lyon (Smithsonian Miscell. Coll., XLVIII, No. 1660, pp. 277-279, February 4, 1907), for remarks on the status of this species.

112511. Skin and skull. Adult male. North Bank of Endau River, Pahang, Malay Peninsula. June 21, 1901. Collected by Dr. W. L. Abbott. Original number 1078. Catalogued November 15, 1901.

Well-made skin in good condition; skull perfect.

**Sciurus poliopus perigrinator** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 149, October 6, 1904.

70279. Skin and skull. Adult female. Piaxtla, Puebla, Mexico. November 25, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 7104.

Well-made skin in good condition; skull perfect, except for slightly broken pterygoid and supraorbital border.

**Sciurus hudsonicus petulans** Osgood. Biological Survey collection.

North Amer. Fauna, No. 19, pp. 27-28, pl. 5, fig. 2, October 6, 1900.

97457. Skin and skull. Adult female. Glacier, White Pass, Alaska. June 4, 1899. Collected by W. H. Osgood. Original number 370.

Well-made skin in good condition; skull perfect.

**Sciurus piniensis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 14, November 6, 1903.

121800. Skin and skull. Adult female. Pulo Pinie, Batu Islands off west coast of Sumatra. March 1, 1903. Collected by Dr. W. L. Abbott. Original number 2344. Catalogued August 2, 1903.

Well-made skin in good condition; skull perfect, except loss of first and second upper molars on right side.



**Sciurus pretiosus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 454, February 3, 1903.

114325. Skin and skull. Adult female. Pulo Bangkaru, Banjak Islands, off west coast of Sumatra. January 20, 1902. Collected by Dr. W. L. Abbott. Original number 1442. Catalogued August 28, 1902.

Well-made skin in good condition; skull perfect.

**Sciurus procerus** Miller.

Proc. Wash. Acad. Sci., III, p. 122, March 26, 1901.

104698. Skin and skull. Adult male. Bunguran Island, Natuna Islands. July 18, 1900. Collected by Dr. W. L. Abbott. Original number 574. Catalogued December 17, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus proserpinæ** Lyon.

Smithsonian Miscell. Coll., XLVIII, No. 1659, p. 275, February 4, 1907.

142285. Skin and skull. Adult female. Pulo Temaju (also written Temadjoe and Temadju), about 4 miles off the west coast of Borneo. June 9, 1905. Collected by Dr. W. L. Abbott. Original number 4180. Catalogued January 22, 1906.

Well-made skin in good condition; skull perfect except loss of left  $pm^1$ ,  $pm^2$ ,  $m^3$ , and left  $m_2$ ,  $m_3$ .

**Sciurus pumilus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 15, November 6, 1903.

121627. Skin and skull. Adult male. South Pagi Island, off west coast of Sumatra. November 27, 1902. Collected by Dr. W. L. Abbott. Original number 2098. Catalogued July 31, 1903.

Well-made skin in good condition; skull perfect, except for a few scarcely noticeable shot holes.

**Sciurus albipes quercinus** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 150-151, June 3, 1898. Preoccupied by *Sciurus quercinus* Erxleben, Syst. Reg. Animal., p. 432, 1777. *Sciurus albipes hernandezi* Nelson, Science, new ser., VIII, p. 782, December 2, 1898.

=*Sciurus polioopus hernandezi* (Nelson). See Nelson, Proc. Wash. Acad. Sci., I, p. 48, May 9, 1899.

68202. Skin and skull. Adult female. Mountains on west side of valley of Oaxaca, Oaxaca, Mexico. September 15, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6768.

Well-made skin in good condition; skull perfect, except for shot perforation from base of nasals through anterior part of palate.

**Sciurus richmondi** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 146-147, June 3, 1898.

$\frac{36431}{48881}$ . Skin and skull. Adult female. Escondido River, 50 miles from Bluefields, Nicaragua. October 4, 1892. Collected by Dr. C. W. Richmond. Original number 118.

Well-made skin in good condition; skull perfect.

**Sciurus rubeculus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 22, November 6, 1903.

86777. Skin and skull. Adult male. Khow Sai Dow (1,000 feet), Trong (or Tarang), lower Siam. February 21, 1899. Collected by Dr. W. L. Abbott. Catalogued July 20, 1899.

Well-made skin in good condition; skull perfect, except pterygoids slightly injured.

**Sciurus rubidiventris** Miller.

Proc. Wash. Acad. Sci., III, p. 127, March 26, 1901.

104671. Skin and skull. Adult female. Bunguran Island, Natuna Islands. June 22, 1901. Collected by Dr. W. L. Abbott. Original number 498. Catalogued December 17, 1900.

Well-made skin in good condition; skull perfect, except condyloid process of right mandible shot away.

**Sciurus rutiliventris** Miller.

Proc. Wash. Acad. Sci., III, p. 126, March 26, 1901.

104658. Skin and skull. Adult male. Pulo Midei (Low Island), Natuna Islands. May 24, 1900. Collected by Dr. W. L. Abbott. Original number 405. Catalogued December 17, 1900.

Well-made skin in good condition; skull perfect, except several shot holes and angle of right half of mandible lacking.

**Sciurus sanggaus** Lyon.

Proc. U. S. Nat. Mus., XXXIII, No. 1577, p. 554, December 24, 1907.

142296. Skin and skull. Adult female. Sanggau, western Borneo, south bank of Kapuas River. August 21, 1905. Collected by Dr. W. L. Abbott. Original number 4357. Catalogued January 22, 1906.

Well-made skin in good condition; skull perfect.

**Sciurus saturatus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 453, February 3, 1903.

114629. Skin and skull. Adult female. Pulo Mansalar, off Tapanuli Bay, west coast of Sumatra. March 9, 1902. Collected by Dr. W. L. Abbott. Original number 1633. Catalogued September 3, 1902.

Well-made skin in good condition; skull perfect, except for loss of all the upper premolars, both last upper molars, right last lower molar.

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**Sciurus polioopus senex** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 148-149, October 6, 1904.

126208. Skin and skull. Adult female. La Salada, Michoacan, Mexico. March 14, 1903. Collected by E. W. Nelson and E. A. Goldman. Original number 16127.

Well-made skin in good condition; skull perfect, except for absence of first left upper premolar.

**Sciurus seraiæ** Miller.

Proc. Wash. Acad. Sci., III, p. 125, March 26, 1901.

104660. Skin and skull. Adult male. Pulo Seraiæ, Natuna Islands. May 29, 1900. Collected by Dr. W. L. Abbott. Original number 415. Catalogued December 17, 1900.

Well-made skin in good condition; skull perfect.

**Sciurus serutus** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1481, p. 58, July 23, 1906.

125025. Skin and skull. Adult male. Pulo Serutus, Karimata Islands, off west coast of Borneo. August 17, 1904. Collected by Dr. W. L. Abbott. Original number 3584. Catalogued December 7, 1904.

Well-made skin in good condition; skull perfect.

**Sciurus suckleyi** Baird.

Proc. Acad. Nat. Sci. Phila., VII, p. 333, this paper was reported favorably for publication April 24, 1855.

=*Sciurus douglasii* Bachman. See Baird, Mammals of North America, p. 275, 1857.

$\frac{37}{18} \frac{12}{8}$ . Skin and skull. Adult male. Steilacoom, Washington. January 13, 1854. Collected by Dr. George Suckley, U. S. A., Pacific Railroad Survey. Original number 1. Skin catalogued March 17, 1854; skull, November 1, 1898.

Specimen made into a modern study skin and the skull removed in November, 1898. The skin is in fair condition, but the left fore leg is lacking. Only that part of the skull anterior to the brain-case, and the right half of the mandible is present.

In Baird's original description he gives the three measurements "Head and body 9 inches. Tail vertebrae  $4\frac{1}{2}$  inches. To tip of hairs 6 inches." In 1857, in his Mammals of North America, Baird gives more details of the Pacific Railroad specimens, and in the table on page 278, No. 272, the above specimen is the only one which agrees with the above three measurements, and consequently it is taken as the type.

**Sciurus sullivanus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 17, November 6, 1903.

104377. Skin and skull. Adult female. Sullivan Island, Mergui Archipelago. February 1, 1900. Collected by Dr. W. L. Abbott. Original number 294. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect, except left pterygoid.

**Sciurus tenuis surdus** Miller.

Proc. Wash. Acad. Sci., II, p. 80, July 25, 1900.

84412. Skin and skull. Adult male. Trong (or Tarang), lower Siam. February 3, 1897. Collected by Dr. W. L. Abbott. Catalogued March 25, 1898.

Well-made skin in good condition; skull a trifle damaged by shot, the two premolars and first molar in the left upper jaw shot away. In left half of mandible only the two last molars remain, and in the right half the last molar has fallen out.

Type designated by number. In original description under "Measurements," external measurements of the type are said to be given. This is an error, however, as they are measurements of a paratype, No. 83243.

**Sciurus vittatus tapanulius** Lyon.

Smithsonian Miscell. Coll., XLVIII, No. 1660, p. 280, February 4, 1907.

114519. Skin and skull. Adult male. Tapanuli Bay, west coast of Sumatra. February 21, 1902. Collected by Dr. W. L. Abbott. Original number 1560. Catalogued September 2, 1902.

Well-made skin in good condition; skull perfect.

**Sciurus vittatus tarussanus** Lyon.

Smithsonian Miscell. Coll., XLVIII, No. 1660, p. 279, February 4, 1907.

141038. Skin and skull. Adult female. Tarussan Bay, west coast of Sumatra. December 28, 1904. Collected by Dr. W. L. Abbott. Original number 3857. Catalogued July 19, 1905.

Well-made skin in good condition; skull perfect, except loss of left  $pm^1$  and shot injuries to angular processes of mandible.

**Sciurus tedongus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 591, December 18, 1906.

124717. Skin and skull. Adult male. Tanjong Tedong, island of Banka, east of Sumatra. June 1, 1904. Collected by Dr. W. L. Abbott. Original number 3285. Catalogued November 30, 1904.

Well-made skin in good condition; skull nearly perfect, a few shot holes, right half of mandible especially damaged.

**Sciurus tenuirostris** Miller.

Proc. Wash. Acad. Sci., II, p. 221, fig. 13c, August 20, 1900.

101753. Skin and skull. Adult female. Pulo Tioman, off southeast coast Malay Peninsula. September 30, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Well-made skin in good condition; skull with several shot holes, and the last two upper molars on each side shot away; posterior portion of right half of mandible lacking, and the first two right mandibular cheek-teeth shot away.

**Sciurus thomasi** Nelson.

Proc. Wash. Acad. Sci., I, p. 71, pl. 2, fig. 6, May 9, 1899.

$\frac{120}{33} \frac{44}{17}$ . Skin and skull. Talamanca, Costa Rica. 1874. Collected by Prof. W. M. Gabb. Skin catalogued November 11, 1874; skull, April 16, 1889.

The specimen has been remade into a modern study skin and is in good condition; skull is perfect except for loss of pterygoids and of right postorbital process.

**Sciurus oculatus tolucae** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 148-149, June 3, 1898.

55927. Skin and skull. Adult male. North slope Volcan Toluca, Mexico, Mexico. September 8, 1893. Collected by E. W. Nelson and E. A. Goldman. Original number 5419.

Well-made skin in good condition; skull perfect, except for fractured squamosal and supraoccipital region.

**Sciurus truei** Nelson. Biological Survey collection.

Proc. Wash. Acad. Sci., I, pp. 61-62, May 9, 1899.

96229. Skin and skull. Adult male. Camoa, Rio Mayo, Sonora, Mexico. January 20, 1899. Collected by E. A. Goldman. Original number 13405.

Well-made skin in good condition; skull perfect, except for fractured frontal and supraoccipital and absence of last left upper and lower molars.

**Sciurus ubericolor** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 455, February 3, 1903.

114373. Skin and skull. Adult female. Pulo Tuangku, Banjak Islands, off west coast of Sumatra. February 5, 1902. Collected by Dr. W. L. Abbott. Original number 1517. Catalogued August 28, 1902.

Well-made skin in good condition; skull in good condition, except most of left zygoma and anterior half of left ramus of mandible shot away.

**Sciurus undulatus** True.

Proc. U. S. Nat. Mus., XV, No. 915, p. 465, fig. 3, October 26, 1892.

$\frac{190}{34} \frac{95}{73} \frac{5}{17}$ . Skin and skull. Adult male. Mount Kilimanjaro (6,000 feet), German East Africa. June 12, 1888. Collected by Dr. W. L. Abbott. Original number 7. Catalogued June 24, 1890.

Well-made skin in good condition; skull perfect.

Type designated by number, skull No. 34731 being figured and marked "type." Two specimens are listed, the above and a female, No. 19006, also marked "type," but as there can not be two types of the same species, it seems advisable to consider the second specimen as a paratype, the one figured as the type.

**Sciurus hudsonicus ventorum** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., X, pp. 263-264, July 22, 1898.

56030. Skin and skull. Adult male (not female, as in original description). South Pass City, Wyoming. September 6, 1893. Collected by V. Bailey. Original number 4305.

Well-made skin in good condition; skull perfect, except for numerous small shot perforations and absence of one molar.

**Sciurus deppei vivax** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, pp. 131-132, August 9, 1901.

107932. Skin and skull. Adult female. Apazote, Campeche, Mexico. January 8, 1901. Collected by E. A. Goldman. Original number 14429.

Well-made skin in good condition; skull perfect.

**Sciurus carolinensis yucatanensis** Allen. Cotype.

Monographs North American Rodentia, p. 705, August, 1877.

=*Sciurus yucatanensis* (Allen). See Elliot, Field Columbian Mus., Zool. Ser., I, p. 80, May, 1896.

$\frac{8.5}{3} \frac{0.3}{7} \frac{0.3}{9} \frac{0.3}{6}$ . Skin and skull. Adult female. Merida, Yucatan, Mexico. March 3, 1865. Collected by Dr. A. Schott, "Comision cientifica de Yucatan, Jose Salagar Llarregui." Original number 229. Skin catalogued May 2, 1866; skull, September 20, 1898.

The specimen has been remade into a modern study skin and is in good condition; skull in fair condition, right zygoma lacking, and a considerable hole above the foramen magnum as well as breaks about the optic foramina.

In the original description Dr. J. A. Allen speaks of four specimens, all of the same date, locality, and collector as the above. In the table of measurements, on page 711, three of them are referred to by number, namely, 8502, 8503, and 8505, which should be regarded as cotypes. Unfortunately, Nos. 8502 and 8505 can not be found. His fourth specimen, not referred to by number and hence regarded as a paratype, is in good condition and in the collection. It is about half or two-thirds grown.

## Genus FUNAMBULUS.

**Funambulus castaneus** Miller.

Proc. Wash. Acad. Sci., II, p. 217, August 20, 1900.

101696. Skin and skull. Immature male. Pulo Siantan, Anamba Islands, South China Sea. September 10, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Fairly well-made skin in good condition; skull perfect.

**Funambulus obscurus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 23, November 6, 1903.

121640. Skin and skull. Adult female. South Pagi Island, off west coast of Sumatra. November 22, 1902. Collected by Dr. W. L. Abbott. Original number 2086. Catalogued July 31, 1903.

Well-made skin in good condition; skull perfect.

**Funambulus peninsulæ** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 25, November 6, 1903.

86776. Skin and skull. Adult male. Khow Sai Dow, Trong (or Tarang), lower Siam. February 18, 1899. Collected by Dr. W. L. Abbott. Catalogued July 20, 1899.

Well-made skin in good condition; skull perfect.

**Funambulus rostratus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 24, November 6, 1903.

121801. Skin and skull. Adult female. Tana Bala, Batu Islands, off west coast of Sumatra. February 12, 1903. Collected by Dr. W. L. Abbott. Original number 2281. Catalogued August 2, 1903.

Well-made skin in good condition, tail apparently imperfect in life; skull perfect.

## Genus RATUFA.

**Ratufa anambæ** Miller.

Proc. Wash. Acad. Sci., II, p. 215, August 20, 1900.

101725. Skin and skull. Adult female (not male, as in original description). Pulo Jimaja, Anamba Islands, South China Sea. September 25, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1902.

Well-made skin in good condition; skull perfect.

**Ratufa angusticeps** Miller.

Proc. Wash. Acad. Sci., III, p. 130, March 26, 1901.

104646. Skin and skull. Adult male. Pulo Lingung, off south coast of Bunguran, Natuna Islands. June 17, 1900. Collected by Dr. W. L. Abbott. Original number 481. Catalogued December 17, 1900.

Well-made skin in good condition; skull perfect, except for left malar shot away.

**Ratufa arusinus** Lyon.

Proc. U. S. Nat. Mus., XXXII, No. 1534, p. 442, May 23, 1907.

143351. Skin and skull. Adult male. Aru Bay, northeastern coast of Sumatra. January 16, 1906. Collected by Dr. W. L. Abbott. Original number 4635. Catalogued June 21, 1906.

Well-made skin in good condition; skull perfect.

**Ratufa balæ** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 6, November 6, 1903.

121715. Skin and skull. Adult male. Tana Bala, Batu Islands, off west coast of Sumatra. February 5, 1903. Collected by Dr. W. L. Abbott. Original number 2224. Catalogued August 1, 1903.

Well-made skin in good condition; skull perfect.

**Ratufa polia bancana** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 587, December 18, 1906.

124680. Skin and skull. Adult male. Tanjong Rengsam, island of Banka, east of Sumatra. May 27, 1904. Collected by Dr. W. L. Abbott. Original number 3277. Catalogued November 29, 1904.

Well-made skin in good condition; skull nearly perfect, somewhat damaged by shot, especially mandible.

**Ratufa carimonensis** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 257, September 11, 1906.

122813. Skin and skull. Adult female. Great Karimon Island, Rhio-Linga Archipelago. June 2, 1903. Collected by Dr. W. L. Abbott. Original number 2465. Catalogued January 20, 1904.

Well-made skin in good condition; skull perfect.

**Ratufa catemana** Lyon.

Proc. U. S. Nat. Mus., XXXII, No. 1534, p. 443, May 23, 1907.

123124. Skin and skull. Adult male. Kateman River, southeastern Sumatra. August 27, 1903. Collected by Dr. W. L. Abbott. Original number 2759. Catalogued January 25, 1904.

Well-made skin in good condition; skull somewhat damaged by shot holes in palate and cranium; left zygoma and anterior portion of right half of mandible lacking.

**Ratufa condurensis** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 258, September 11, 1906.

122879. Skin and skull. Adult male. Pulo Kundur, Rhio-Linga Archipelago. June 25, 1903. Collected by Dr. W. L. Abbott. Original number 2552. Catalogued January 21, 1904.

Well-made skin in good condition; skull perfect, except loss of right pterygoid; left  $m^1$  and  $pm^1$  worn down to alveoli and right  $m_2$  lost.

**Ratufa confinis** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 259, September 11, 1906.

113134. Skin and skull. Adult female. Sinkep Island, Rhio-Linga Archipelago. September 3, 1901. Collected by Dr. W. L. Abbott. Original number 1265. Catalogued January 31, 1902.

Well-made skin in good condition; skull perfect, except loss of left pterygoid.

**Ratufa conspicua** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 5, November 6, 1903.

115528. Skin and skull. Adult male. Pulo Bintang, Rhio-Linga Archipelago. August 19, 1902. Collected by Dr. W. L. Abbott. Original number 1900. Catalogued December 27, 1902.

Well-made skin in good condition; skull perfect.



**Ratufa femoralis** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 447, February 3, 1903.

114361. Skin and skull. Adult female. Pulo Tuangku, Banjak Islands, off west coast of Sumatra. January 27, 1902. Collected by Dr. W. L. Abbott. Original number 1479. Catalogued August 28, 1902.

Well-made skin in good condition; skull perfect.

**Ratufa insignis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 4, November 6, 1903.

115531. Skin and skull. Adult male. Pulo Sugi, Rhio-Linga Archipelago. August 26, 1902. Collected by Dr. W. L. Abbott. Original number 1960. Catalogued December 27, 1902.

Well-made skin in good condition; skull perfect, except that the left pterygoid is broken.

**Ratufa lænata** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 449, pl. 19, February 3, 1903.

114350. Skin and skull. Adult male. Pulo Tuangku, Banjak Islands, off west coast of Sumatra. January 27, 1902. Collected by Dr. W. L. Abbott. Original number 1478. Catalogued August 28, 1903.

Well-made skin in good condition; skull perfect.

**Ratufa masæ** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 7, November 6, 1903.

121818. Skin and skull. Adult male. Tana Masa, Batu Islands, off west coast of Sumatra. February 21, 1903. Collected by Dr. W. L. Abbott. Original number 2330. Catalogued August 3, 1903.

Well-made skin in good condition; skull perfect, except for a few scattered shot holes.

**Ratufa melanopepla** Miller.

Proc. Wash. Acad. Sci., II, p. 71, July 25, 1900.

83230. Skin and skull. Adult male. Trong (or Tarang), lower Siam. February 27, 1896. Collected by Dr. W. L. Abbott. Catalogued December 1, 1896.

Well-made skin in good condition; skull perfect, except for loss of left last upper molar and right pterygoid.

**Ratufa nigrescens** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 448, February 3, 1903.

114556. Skin and skull. Adult female. Pulo Mansalar, off Tapanuli Bay, west coast of Sumatra. March 11, 1902. Collected by Dr. W. L. Abbott. Original number 1641. Catalogued September 2, 1902.

Well-made skin in good condition; skull perfect.

**Ratufa notabilis** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 150, June 11, 1902.

113064. Skin and skull. Adult male. West coast of Linga Island, Rhio-Linga Archipelago, August 24, 1901. Collected by Dr. W. L. Abbott. Original number 1210. Catalogued January 28, 1902.

Well-made skin in good condition; skull perfect.

**Ratufa palliata** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 147, June 11, 1902.

113162. Skin and skull. Adult male. Indragiri River, eastern Sumatra. September 23, 1901. Collected by Dr. W. L. Abbott. Original number 1327. Catalogued February 4, 1902.

Well-made skin in good condition; skull slightly injured by shot, both upper incisors more or less broken, and a piece out of right zygoma.

**Ratufa piniensis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 8, November 6, 1903.

121940. Skin and skull. Adult male. Pulo Pinie, Batu Islands, off west coast of Sumatra. March 1, 1903. Collected by Dr. W. L. Abbott. Original number 2343. Catalogued August 2, 1903.

Well-made skin in good condition (tail imperfect in life); skull slightly damaged by shot; both lower incisors broken off to alveoli, hole in right bulla, and slight damage about lachrymal region on each side.

**Ratufa polia** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 585, December 18, 1906.

125004. Skin and skull. Adult female. Bukit Menguru, Billiton Island, between Sumatra and Borneo. August 9, 1904. Collected by Dr. W. L. Abbott. Original number 3551. Catalogued December 4, 1904.

Well-made skin in good condition; skull perfect.

**Ratufa pyrsonota** Miller.

Proc. Wash. Acad. Sci., II, p. 75, July 25, 1900.

83483. Skin and skull. Adult male. Trong (or Tarang), lower Siam. September 29, 1896. Collected by Dr. W. L. Abbott. Catalogued April 23, 1897.

Well-made skin in good condition; skull perfect.

**Ratufa tiomanensis** Miller.

Proc. Wash. Acad. Sci., II, p. 216, August 20, 1900.

101751. Skin and skull. Adult male. Pulo Tioman, off southeast coast of Malay Peninsula. October 4, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Well-made skin in good condition; skull perfect.

## Genus PETAURISTA.

**Petaurista batuana** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 27, November 6, 1903.

121742. Skin and skull. Adult male. Tana Bala, Batu Islands, off west coast of Sumatra. February 5, 1903. Collected by Dr. W. L. Abbott. Original number 2233. Catalogued August 1, 1903.

Well-made skin in good condition; skull perfect, except for shot holes about left antorbital foramen.

**Petaurista terutaus** Lyon.

Proc. Biol. Soc. Wash., XX, p. 17, February 23, 1907.

123934. Skin and skull. Adult male. Pulo Terutau (also written Trotau, Trotto), about 15 geographical miles off west coast Malay Peninsula, and about  $5\frac{1}{2}^{\circ}$  north of equator. April 9, 1904. Collected by Dr. W. L. Abbott. Original number 3219. Catalogued July 22, 1904.

Well-made skin in good condition; skull perfect.

## Genus SCIUROPTERUS.

**Sciuropterus amœnus** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 261, September 11, 1906.

122883. Skin and skull. Adult male. Pulo Kundur, Rhio-Linga Archipelago. June 12, 1903. Collected by Dr. W. L. Abbott. Original number 2483. Catalogued January 21, 1904.

Well-made skin in good condition; skull perfect.

**Sciuropterus volans goldmani** Nelson. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 148, October 6, 1904.

132833. Skin and skull. Adult male. Twenty miles southeast of Teopisca, Chiapas, Mexico. April 8, 1904. Collected by E. A. Goldman. Original number 16667.

Well-made skin in good condition; skull lacking right audital bulla, left upper molars, and posterior part of palate; left mandibular ramus in three pieces.

**Sciuropterus alpinus klamathensis** Merriam. Biol. Survey coll.

Proc. Biol. Soc. Wash., XI, p. 225, July 15, 1897.

87310. Skin and skull. Adult female. Fort Klamath, Oregon. January 11, 1897. Collected by B. L. Cunningham. Original number 355x.

Well-made skin in good condition; skull perfect.

**Sciuropterus sabrinus macrotis** Mearns.

Proc. U. S. Nat. Mus., XXI, No. 1147, p. 353, figs. 1, 2, and 3, November 4, 1898.

83152. Skin and skull. Adult female. Hunter Mountain, Catskill Mountains, Green County, New York. August 31, 1896. Col-

lected by Dr. E. A. Mearns, U. S. A. Original number 4036.  
Catalogued November 16, 1896.

Well-made skin in good condition; skull perfect.

**Sciuropterus mærens** Miller.

Smithsonian Miscell. Coll., XLV, No. 1490, p. 26, pl. 1, fig. 1, November 6, 1903.

121531. Skin and skull. Adult female. North Pagi Island, off west coast of Sumatra. January 14, 1902. Collected by Dr. W. L. Abbott. Original number 2206. Catalogued July 29, 1903.

Well-made skin in good condition; skull perfect.

**Sciuropterus oregonensis stephensi** Merriam. Biol. Survey coll.

Proc. Biol. Soc. Wash., XIII, p. 151, June 13, 1900.

99830. Skin and skull. Young adult female. Sherwood, Mendocino County, California. May 10, 1894. Collected by F. Stephens. Original number 2307 (2624x).

Well-made skin in good condition; skull perfect, except for absence of right postorbital process and right coronoid process.

**Sciuropterus yukonensis** Osgood.

North Amer. Fauna, No. 19, p. 25, October 6, 1900.

$\frac{19}{3} \frac{20}{3} \frac{20}{3}$ . Skin and skull. Adult female. Camp Davidson, Yukon River, near Alaska-Canada boundary. December 8, 1890. Collected by R. E. Carson, a member of the survey party of the United States Coast and Geodetic Survey. Catalogued March 10, 1892.

Well-made skin in good condition; skull not quite perfect, some slight damage about the bony palate.

**Sciuropterus alpinus zaphæus** Osgood. Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, pp. 133-134, April 18, 1905.

136137. Skin and skull. Adult female. Helm Bay, Cleveland Peninsula, Alaska. January 21, 1905. Collected by C. Catt. Original number 5196x.

Well-made skin in good condition; skull perfect.

Family ANOMALURIDÆ.

Genus IDIURUS.

**Idiurus macrotis** Miller.

Proc. Biol. Soc. Wash., XII, p. 73, figs. 15-19, March 24, 1898.

83625. Skin and skull. Young adult male. Efulen, Cameroon district, West Africa. June 18, 1895. Collected by G. L. Bates. Original number 4. Catalogued June 23, 1897.

Well-made skin in good condition; skull in fair condition, the four occipital bones cut away.

## Order FERÆ.

## Family PHOCIDÆ.

## Genus PHOCA.

**Halichœrus antarcticus** Peale.

U. S. Exploring Exped., VIII, Mamm. and Ornithol., p. 30; woodcut, p. 31, 1848.

*Phoca pealii* Gill, Communications, Essex Institute, V, 1866-7, p. 4, footnote.

Allen, Monogr. North Amer. Pinnipeds, U. S. Geol. Surv., Miscell. Pub., XII, 1880, p. 561; and pp. 580-582.

= *Phoca richardii* (Gray). See Allen, Bull. Amer. Mus. Nat. Hist., XVI, pp. 491-492; see also p. 463 and pp. 466 and 467, December 12, 1902.

3648. Skull. Young adult. Said to have been collected by the United States Exploring Expedition at Deception Island, October 10. Catalogued January 10, 1860. Gill and Allen (see references above) strongly and rightly question the locality given by Peale.

The skull has evidently been injured in recent years. Most of the right half of the brain case has been broken away, including the right zygoma. The tips of the nasals are injured and the region about the right premaxillo-maxillo-nasal sutures considerably broken. There should be a skin, No. 3741, which can not be found.

Type not designated by number, but a consideration of Allen's "Pinnipeds," pp. 580-582, leaves no doubt that this specimen is the type.

**Phoca richardii geronimensis** Allen. Biological Survey collection.

Bull. Amer. Mus. Nat. Hist., XVI, pp. 495-496, December 12, 1902.

81520. Skin and skull (skin not examined by describer and not mentioned in original description). Adult male. San Geronimo Island, Lower California, Mexico. September 13, 1896. Collected by A. W. Anthony. Original number 209.

Well-made skin in good condition; skull perfect, except for perforation of basi-occipital.

**Phoca ochotensis macrodens** Allen.

Bull. Amer. Mus. Nat. Hist., XVI, p. 483, December 12, 1902.

83447. Skull (no skin). Young adult (male *vide* Allen). Avatcha Bay, Kamchatka. 1896. Collected by Dr. L. Stejneger. Catalogued April 7, 1897.

Skull nearly perfect, except right malar and first right lower incisor lost. Atlas present.

**Phoca richardii pribilofensis** Allen.

Bull. Amer. Mus. Nat. Hist., XVI, p. 495, December 12, 1902.

$\frac{83223}{40560}$ . Skin and skeleton. Adult female. St. Paul Island, Pribilof Islands, Alaska. Collected by C. H. Townsend, U. S. Bureau of Fisheries. Catalogued November 28, 1896.

Well-made skin in good condition; skull perfect (in Division of Mammals); rest of skeleton in storage (Division of Comparative Anatomy).

In the original description, owing to the confusion caused by the double entry of one specimen in two different divisions of the Museum, Dr. J. A. Allen does not seem to have been aware that this skin, 83223, is the same individual as skull and skeleton 49550.

### **Phoca stejnegeri** Allen.

Bull. Amer. Mus. Nat. Hist., XVI, p. 485, figs. 7, 8, and 10, December 12, 1902.

21310. Skull only. Adult male. Bering Island. April 16, 1883. Collected by Dr. L. Stejneger. Original number 1973. Catalogued July 17, 1884.

Skull perfect, except for loss of two of the lower incisors.

### Genus MIROUNGA.

### **Macrorhinus angustirostris** Gill.

Communication Essex Institute, V, 1866-7, p. 13. Communicated October 16, 1865. Preliminary notice only.

Proc. Chicago Acad. Sci., I, p. 33, April, 1866.

=**Mirounga angustirostris** (Gill). See Elliot, Land and Sea Mammals Middle America and West Indies, Field Columbian Mus., Zool. Ser., IV, p. 245, 1904.

4704. Skull. Immature female. St. Bartholomew Bay, Lower California, Mexico. 1857. Collected by Dr. W. O. Ayres. Catalogued October 18, 1863. Skull has the following legend on it in old, nearly faded writing: "Macrorhinus | \* \* \* Bartholomew Bay | L. California | Sea Elephant | \* \* \* posited Dr. Ayre | A | " and number 4704.

Skull perfect except loss of the five right maxillary teeth, last three left maxillary teeth, inner upper right incisor, right lower canine, and three mandibular cheek teeth, left lower inner incisor and last mandibular cheek tooth.

Type not designated by number. There is but one specimen in the Museum answering to the locality and dimensions published by Dr. T. N. Gill, and that is the above, No. 4704. The type skull is figured by Allen (Hist. North Amer. Pinnipeds, 1880, figs. 57, 58, 59, 60, on pp. 744 to 747). Some of the teeth were lacking at that date. On page 748, footnote to table, No. 4704 is said to be the type of the species.

### Family OTARIIDÆ.

### Genus ARCTOCEPHALUS.

### **Arctocephalus townsendi** Merriam.

Proc. Biol. Soc. Wash., XI, p. 178, July 1, 1897.

83617. Skull. Adult male. Picked up on the beach on the west side of Guadalupe Island, Lower California. May 22, 1892. Collected by C. H. Townsend. Catalogued June 15, 1897.

Skull is an old weatherworn specimen, without teeth and with no lower jaw. On the whole, it is in good condition for such a specimen. The only serious damage to the skull is a large hole in the brain case, superoposteriorly.

## Family FELIDÆ.

## Genus LYNX.

**Lynx ruffus californicus** Mearns.

Preliminary Diagnoses of New Mammals of the Genera Lynx, Urocyon, Spilogale, and Mephitis, from the Mexican Boundary Line, p. 2, January 12, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1126, p. 458, December 24, 1897.)

$\frac{1588}{37163}$ . Skin and skull. Adult female. San Diego, California. February 2, 1856. Collected by Dr. J. F. Hammond. Skin catalogued February 27, 1856; skull, August 8, 1896.

Well-made skin in fair condition, a small bare spot on throat. It was evidently made over into its present shape and the skull removed and cleaned in 1896. Skull perfect.

**Lynx ruffus eremicus** Mearns.

Preliminary Diagnoses of New Mammals of the Genera Lynx, Urocyon, Spilogale, and Mephitis from the Mexican Boundary Line, p. 1, January 12, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1126, p. 457, December 24, 1897.)

60676. Skin, skull, and tail vertebræ. Adult male. New River, 6 miles northwest of Laguna station, in the Colorado Desert, San Diego County, California. May 5, 1894. Collected by Dr. E. A. Mearns, U. S. A. Original number 3506. International Boundary Commission. Catalogued November 5, 1894.

Specimen remade in February, 1902, into a modern study skin, in good condition; skull perfect.

**Lynx fasciatus pallescens** Merriam. Biological Survey collection.

North Amer. Fauna, No. 16, p. 104, October 28, 1899.

76585. Skin and skull. Adult male. South base of Mount Adams, near Trout Lake, Washington. January 10, 1896 (not 1895, as in original description). Collected by D. N. Kaegi. Original number 23.

Well-made skin in good condition; skull perfect, except for broken left pterygoid.

**Lynx uinta** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 71-72, March 22, 1902.

$\frac{18815}{28848}$ . Skin and skull. Adult male. Bridger Pass, south slope Uinta Mountains, Wyoming. May 11, 1890. Collected by V. Bailey. Original number 1156.

Well-made skin in good condition; skull perfect.

## Genus FELIS.

**Felis æquatorialis** Mearns.

Proc. U. S. Nat. Mus., XXV, No. 1286, p. 246, September 17, 1902.

113267. Skin and skull. Adult female. Paramba, northern Ecuador (altitude 3,500 feet). November 2, 1899. Collected by G. Fleming. Original number 22. Catalogued February 25, 1902.

Well-made skin in good condition; skull perfect, except that the zygomatic arches have been broken, but are now repaired; right pterygoid lost.

**Felis apache** Mearns.

Proc. Biol. Soc. Wash., XIV, p. 150, August 9, 1901.

1373. Skull only. Young adult female. Matamoras, Tamaulipas, Mexico. Collected by Dr. J. L. Berlandier. Catalogued January 25, 1855.

Three teeth are missing, both last upper molars and the first left upper pre-molar; otherwise skull perfect.

**Felis hipolestes aztecus** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 592-593, December 11, 1901.

99658. Skin and skull. Adult male. Colonia Garcia, Chihuahua, Mexico. October 17, 1899. Collected by H. A. Cluff. Original number 2401x.

Well-made skin in good condition; skull perfect.

**Felis aztecus browni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, pp. 73-74, May 29, 1903.

= *Felis hipolestes browni* (Merriam).

125719. Skull only. Adult male. Lower Colorado River, 12 miles south of Yuma, Arizona. February (?), 1903. Collected by Herbert Brown. Original number 3908x.

Skull with repaired fractures of left mandible, left zygoma, and inner wall of orbit; left audital bulla broken; left pterygoid and left coronoid absent; two upper incisors, left canine, left carnassial, and last left molar badly broken.

**Felis cacomitli** Berlandier in Baird.

Report U. S. and Mexican Boundary Survey, II, Pt. 2, p. 12, January, 1859.

1426. Skull only. Adult female. Matamoras, Tamaulipas, Mexico. 1840. Collected by Dr. J. L. Berlandier. Received from Lieut. D. N. Couch, U. S. A. Catalogued January 27, 1855.

Skull nearly perfect; lambdoid crest worn by handling, etc., and left bulla broken.

**Felis centralis** Mearns.

Proc. Biol. Soc. Wash., XIV, p. 139, August 9, 1901.

14177. Skull. Adult, probably male. Talamanca, Costa Rica. Collected by Prof. W. M. Gabb. Original number 47. Catalogued November 19, 1874.

Skull perfect. Catalogue calls for a skin, No. 12177, which can not be found.



**Felis costaricensis** Mearns.

Proc. U. S. Nat. Mus. XXV, No. 1286, p. 245, September 17, 1902. Preoccupied by *Felis bangsi costaricensis* Merriam, Proc. Wash. Acad. Sci., III, p. 596, December 11, 1901.

=*Felis pardalis mearnsi* Allen. Bull. Amer. Mus. Nat. Hist., XX, 1904, p. 71, February 29, 1904.

14180. Skull. Adult (male, *fide* Dr. E. A. Mearns). Talamanca, Costa Rica. Collected by Prof. W. M. Gabb. Original number 73. Catalogued November 19, 1874.

The catalogue calls for a skin, 12180, but it has never been found, and the type was described without it. Skull is nearly perfect; the pterygoids are chipped and the following teeth are missing from the upper jaw: Right side, first incisor, first premolar, and the molar; left side, first incisor, canine, and first premolar.

**Felis fossata** Mearns.

Proc. Biol. Soc. Wash., XIV, p. 150, August 9, 1901.

7036. Skull only. Adult. Merida, Yucatan, Mexico. Collected by Dr. A. Schott. Original number 952. Catalogued July 8, 1866. Skull perfect.

**Felis hernandesii goldmani** Mearns.

Proc. Biol. Soc. Wash., XIV, p. 142, August 9, 1901.

105930. Skin only. Adult. Yohaltun, Campeche, Mexico. January 5, 1901. Received from E. A. Goldman. Catalogued June 18, 1901.

The skin is a tanned pelt, without feet, in good condition.

**Felis hippelestes** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 219, July 15, 1897.

57936. Skin and skull. Old male. Wind River Mountains, near head of Big Wind River, Wyoming. November, 1892. Collected by John Burlingame.

Well-made skin in good condition; skull perfect, except for broken audital bullae and right pterygoid.

**Felis limitis** Mearns.

Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, pp. 146-148, August 9, 1901.

=*Felis pardalis albescens* Pucheran. See Allen, Bull. Amer. Mus. Nat. Hist., XXII, pp. 219-221, July 25, 1906.

$\frac{32679}{44602}$ . Skin and skull. Adult male. Brownsville, Texas. March 4, 1892. Collected by F. B. Armstrong. Original number 102.

Well-made skin in good condition; skull perfect.

**Felis hippelestes olympus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 220, July 15, 1897.

77973. Skin and skull. Adult male (?). Lake Cushman, Olympic Mountains, Washington. April 18, 1896. Collected by T. Hayes.

Well-made skin in good condition; skull perfect.

**Felis puma patagonica** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, pp. 598-600, December 11, 1901.

108693. Skin and skull. Young adult male. East base Andes Mountains (lat. 47° 30'), Patagonia. 1899. Collected by J. B. Hatcher. Original number 3020x.

Tanned skin in good condition, claws missing; skull perfect, except for absence of one lower incisor.

## Family VIVERRIDÆ.

## Genus ARCTOGALIDIA.

**Arctogalidia fusca** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 269, September 11, 1906.

122920. Skin and skull. Adult male. Pulo Kundur, Rhio-Linga Archipelago. June 22, 1903. Collected by Dr. W. L. Abbott. Original number 2540. Catalogued January 22, 1904.

Well-made skin in good condition; skull perfect.

**Arctogalidia inornata** Miller.

Proc. Wash. Acad. Sci., III, p. 131, March 26, 1901.

104859. Skin and skull. Old adult male. Bunguran Island, Natuna Islands. June 23, 1900. Collected by Dr. W. L. Abbott. Original number 502. Catalogued December 20, 1900.

Well-made skin in good condition. Skull perfect, very old; teeth much worn and many of them lost, due to age.

**Arctogalidia major** Miller.

Proc. Biol. Soc. Wash., XIX, p. 25, February 26, 1906.

83510. Skin and skull. Young (permanent dentition in place, but unworn; sutures of rostrum and brain case plainly visible) adult male. Trong (or Tarang), lower Siam. September 3, 1896. Collected by Dr. W. L. Abbott. Catalogued April 28, 1897.

Well-made skin in good condition; skull perfect.

**Arctogalidia minor** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 599, December 18, 1906.

124984. Skin and skull. Adult female. Buding Bay, Billiton Island, between Sumatra and Borneo. August 3, 1904. Collected by Dr. W. L. Abbott. Original number 3532. Catalogued December 6, 1904.

Well-made skin in good condition; skull perfect, except for shot hole in right half of cranium and loss of right *m*<sup>2</sup>.

**Arctogalidia simplex** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 156, June 11, 1902.

113069. Skin and skull. Adult male. Linga Island, Rhio-Linga Archipelago. August 30, 1901. Collected by Dr. W. L. Abbott. Original number 1254. Catalogued January 28, 1902.

Well-made skin in good condition; skull perfect.

## Genus PARADOXURUS.

**Paradoxurus brunneipes** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 269, September 11, 1906.

122886. Skin and skull. Adult male. Pulo Kundur, Rhio-Linga Archipelago. June 24, 1903. Collected by Dr. W. L. Abbott. Original number 2549. Catalogued January 21, 1904.

Well-made skin in good condition; skull perfect.

**Paradoxurus canescens** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 597, December 18, 1906.

124943. Skin and skull. Adult male. Tanjong Batu, Billiton Island, between Sumatra and Borneo. July 19, 1904. Collected by Dr. W. L. Abbott. Original number 3520. Catalogued December 6, 1904.

Well-made skin in good condition; skull perfect.

**Paradoxurus lignicolor** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 44, pl. 4, fig. 1; pl. 5, fig. 1, November 6, 1903.

121645. Skin and skull. Adult male. North Pagi Island, off west coast of Sumatra. November 19, 1902. Collected by Dr. W. L. Abbott. Original number 2068. Catalogued July 31, 1903.

Well-made skin in good condition; skull perfect.

**Paradoxurus robustus** Miller.

Proc. Biol. Soc. Wash., XIX, p. 26, February 26, 1906.

86796. Skin and skull. Adult female. Khow Sai Dow (2,000 feet), Trong (or Tarang), lower Siam. February 13, 1899. Collected by Dr. W. L. Abbott. Catalogued July 20, 1899.

Well-made skin in good condition; skull perfect.

## Genus HEMIGALE.

**Hemigale minor** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 43, pl. 3, fig. 2, November 6, 1903.

121651. Skin and skull. Adult female. South Pagi Island, off west coast of Sumatra. December 27, 1902. Collected by Dr. W. L. Abbott. Original number 2173. Catalogued July 31, 1903.

Well-made skin in good condition; skull perfect.

## Family CANIDÆ.

## Genus UROCYON.

**Urocyon cinereoargenteus borealis** Merriam. Biol. Survey coll.

Proc. Biol. Soc. Wash., XVI, p. 74, May 29, 1903.

119725. Skin and skull. Adult male. Marlboro, 7 miles from Monadnock, New Hampshire. November 17, 1902. Collected by A. H. Thayer. Original number 3847x.

Well-made skin in good condition. Skull perfect, except for two perforations of palate and absence of three left upper incisors, first right and left upper premolars, first right lower premolar, and last left lower molar; postorbital processes broken.

**Urocyon cinereoargenteus californicus** Mearns.

Preliminary Diagnoses of New Mammals of the Genera *Lynx*, *Urocyon*, *Spilogale*, and *Mephitis* from the Mexican Boundary Line, p. 2, January 12, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1126, p. 459, December 24, 1897.)

=*Urocyon californicus* (Mearns). See Merriam, North Amer. Fauna, No. 16, p. 103, October 28, 1899.

62873. Skin and skull. Old adult male. San Jacinto Mountains (altitude 8,000 feet), Riverside County, California. July 6, 1895. Collected by A. W. Anthony. Original number 41. Catalogued August 27, 1895.

Well-made skin in good condition; skull perfect, two upper and three lower incisors lost, apparently due to age.

**Urocyon catalinæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, p. 74, May 29, 1903.

$\frac{3}{4} \frac{3}{5} \frac{2}{2} \frac{2}{2}$ . Skin and skull. Adult male. Catalina Island, Santa Barbara Islands, California. April 14, 1892. Collected by C. P. Streater. Original number 1801.

Well-made skin in good condition; skull perfect.

**Urocyon clementæ** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, p. 75, May 29, 1903.

92034. Skin and skull. Adult male. San Clemente Island, Santa Barbara Islands, California. June 5, 1897. Collected by H. A. Gaylord. Original number 1163x.

Well-made skin in good condition; skull perfect, except for absence of two right lower premolars and one upper and one lower incisor.

**Urocyon guatemalæ** Miller. Biological Survey collection.

Proc. Acad. Nat. Sci., Phila., 1899, pp. 278-280, July 26, 1899.

76723. Skin and skull. Adult male. Nenton, Guatemala. December 16, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8801.

Well-made skin in good condition; skull perfect.

**Vulpes (Urocyon) littoralis Baird.**

Mammals of North America, p. 143, pls. 1 and 35, fig. 2, 1857.

=**Urocyon littoralis** (Baird). See Merriam, Proc. Biol. Soc. Wash., IV, p. 135, February 18, 1888.

$\frac{1}{2}\frac{3}{1}\frac{5}{5}\frac{1}{4}$ . Skin and skull. Adult. San Miguel Island, Santa Barbara Islands, California. January, 1856. Collected by Lieut. W. P. Trowbridge, U. S. A. Catalogued February 18, 1856.

Specimen was remade in January, 1902, into a modern study skin, and is in good condition, except a few slight imperfections about head. Skull perfect, except for a V-shaped piece of bone out of basioccipital. Second and third left upper incisors and last left upper molar are missing.

Baird listed two specimens, each designated by number, the one mentioned above, and No.  $\frac{1}{2}\frac{1}{1}\frac{1}{5}$ . The latter is an alcoholic specimen, with skull removed. The alcoholic specimen itself can not now be found. No.  $\frac{1}{1}\frac{1}{1}\frac{1}{5}\frac{1}{4}$  is regarded as the type because on Plate 35 of Baird's Mammals, the skull, No. 2154, is figured.

**Urocyon parvidens Miller.**

Proc. Acad. Nat. Sci. Phila., 1899, p. 276, July 26, 1899.

$\frac{1}{4}\frac{1}{1}\frac{1}{1}\frac{2}{2}\frac{2}{2}$ . Skin and skull. Adult male, somewhat young. Merida, Yucatan, Mexico. Collected by Dr. A. Schott. Original number 385. Skin catalogued in 1873; skull, May 4, 1899.

Specimen made into a modern study skin and skull removed May, 1899. Skin in good condition; skull perfect except that both upper canines are broken off nearly to the alveoli, and foramen magnum has been slightly enlarged.

**Urocyon littoralis santacruzæ Merriam. Biological Survey coll.**

Proc. Biol. Soc. Wash., XVI, p. 75, May 29, 1903.

$\frac{3}{4}\frac{4}{1}\frac{4}{1}\frac{5}{5}\frac{2}{2}$ . Skin and skull. Adult female. Santa Cruz Island, Santa Barbara Islands, California. July 11, 1892. Collected by C. P. Streater. Original number 1914.

Well-made skin in good condition; skull perfect, except for broken right upper canine.

**Urocyon cinereoargenteus texensis Mearns.**

Preliminary Diagnoses of New Mammals of the Genera Lynx, Urocyon, Spilogale and Mephitis, from the Mexican Boundary Line, p. 2, January 12, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1126, p. 459, December 24, 1897.)

$\frac{1}{1}\frac{1}{1}\frac{3}{5}$ . Adult skin and skull. San Pedro, near Eagle Pass, Texas. January, 1851. Collected by Dr. A. Schott, Mexican Boundary Survey, under Lieut. W. H. Emory, U. S. A. Catalogued March 31, 1853.

Specimen has been made into a modern study skin in good condition. All parts of the skull posterior to the tooth rows have been cut away; anterior parts perfect.

**Urocyon californicus townsendi** Merriam.

North Amer. Fauna, No. 16, p. 103, October 28, 1899.

14130. Skin. Adult. Baird, Shasta County, California. November 11, 1893. Collected by C. H. Townsend. Original number 49.

Well-made skin in good condition. Although Townsend collected skulls at Baird, there is no record of a skull for this skin. Catalogued January 19, 1884.

Genus **VULPES**.**Vulpes alascensis abietorum** Merriam. Biological Survey coll.

Proc. Wash. Acad. Sci., II, pp. 669-670, December 28, 1900.

71197. Skull only. Adult male. Stuart Lake, British Columbia. Winter, 1893-4. Collected by A. C. Murray.

Skull perfect, except for absence of pterygoid processes and broken left upper canine.

**Vulpes alascensis** Merriam.

Proc. Wash. Acad. Sci., II, p. 668, December 28, 1900.

1420. Skull only. Old male. Andreafski, Alaska. February, 1880. Collected by E. W. Nelson. Original number 180. Catalogued July 24, 1884.

Skull perfect. Some of the teeth rather worn from age, especially the left upper canine and the first two pairs of upper premolars.

**Vulpes beringensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 171-172, August 6, 1902.

47109. Skull only. Young adult female. Bering Island, Bering Sea. June 3, 1892. Collected by Dr. B. W. Evermann. Original number 19.

Skull perfect, except for absence of one upper incisor and first right and left lower premolars.

**Vulpes cascadenis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, pp. 665-666, pl. 36, fig. 3, December 28, 1900.

92767. Skin and skull. Young adult male. Trout Lake, base of Mount Adams, Washington. March 3, 1898. Collected by P. Schmid. Original number 1518x.

Well-made skin in good condition; skull perfect.

**Vulpes hallensis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, pp. 15-16, March 14, 1900.

98067. Skin and skull. Adult female. Hall Island, Bering Sea. July 14, 1899. Collected by Dr. C. Hart Merriam. Shot by W. B. Devereaux. Original number 2177 (Dr. A. K. Fisher).

Well-made skin in good condition; skull perfect, except for broken left upper canine.

**Vulpes harrimani** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, pp. 14-15, March 14, 1900.

99626. Skin only. Adult. Kodiak Island, Alaska. 1899. Collected by Dr. C. Hart Merriam.

Cased skin, tanned; in good condition; feet missing.

**Vulpes velox hebes** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 73-74, March 22, 1902.

108255. Skin and skull. Young adult male. Calgary, Alberta, Canada. October 8, 1900. Collected by W. G. Mackay and G. F. Dippie. Original number 560 (2890x).

Well-made skin in good condition; skull perfect.

**Vulpes lagopus innuitus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 170, August 6, 1902.

107626. Skin and skull. Adult female. Korogaro River, near Point Barrow, Alaska. June 27, 1898. Collected by E. A. McIlhenny. Original number 831 (2877x).

Well-made skin in good condition; skull perfect, except for absence of first left lower premolar.

**Vulpes kenaiensis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, p. 670, pl. 36, fig. 5, December 28, 1900.

96145. Skull only. Old male. Kenai Peninsula, Alaska, 1898. Collected by Dall De Weese.

Skull perfect, except for absence of first left upper premolar.

**Vulpes macrourus** Baird.

Stansbury's Exped. to Valley of Great Salt Lake, Utah, p. 309, May, 1852.

4107. Skin only. Adult. Valley of Great Salt Lake, Utah. 1849 or 1850. Collected by Captain Stansbury's Expedition. Original number "A". The specimen was purchased from hunters in the Salt Lake Valley. Catalogued June 26, 1860.

Specimen made over into modern study skin in fair condition. The left fore foot is the only foot having claws. The right ear is broken and rather mutilated. It is in an envelope attached to the skin.

In Baird's Mammals of North America, p. 131, the type is designated by the original number "A."

**Vulpes muticus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 74, March 22, 1902.

75828. Skin and skull. Adult male. Tracy, San Joaquin Valley, California. November 5, 1895. Collected by G. Leonard. Original number 6.

Well-made skin in good condition; skull perfect, except for slightly fractured left auditory bulla and broken right outer upper incisor.

**Vulpes necator Merriam.** Biological Survey collection.

Proc. Wash. Acad. Sci., II, pp. 664-665, pl. 36, fig. 2, December 23, 1900.

$\frac{3}{4}\frac{1}{3}\frac{1}{3}\frac{5}{8}$ . Skin and skull. Young adult female. Whitney Meadows, near Mount Whitney, California. September 1, 1891. Collected by Dr. A. K. Fisher. Original number 940.

Well-made skin in good condition. Skull with brain-case badly shattered but repaired, leaving a large part of the right frontal and parietal absent; audital bullæ badly broken; palate fractured; pterygoids missing.

**Vulpes macrotis neomexicanus Merriam.** Biological Survey coll.

Proc. Biol. Soc. Wash., XV, p. 74, March 22, 1902.

98646. Skull only. Adult male. Band's ranch, San Andreas Range, New Mexico. April 4, 1899. Collected by C. M. Barber. Original number 2055x.

Skull perfect, except for absence of first right upper and lower premolars.

**Vulpes pribilofensis Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 171, August 6, 1902.

$\frac{3}{4}\frac{1}{3}\frac{1}{3}\frac{5}{8}$ . Skin and skull. Adult male. St. George Island, Pribilof Islands, Bering Sea. August 10, 1891. Collected by Dr. C. Hart Merriam. Original number 8.

Well-made skin in good condition; skull perfect, except for absence of one upper incisor.

**Vulpes regalis Merriam.** Biological Survey collection.

Proc. Wash. Acad. Sci., II, pp. 672-673, pl. 36, fig. 4, December 28, 1900.

$\frac{3}{4}\frac{1}{3}\frac{1}{3}\frac{5}{8}$ . Skin and skull. Adult male. Elk River, Minnesota. March 5, 1887. Collected by V. Bailey. Original number 659.

Well-made skin in good condition. Skull perfect, except for a few small perforations in rostrum; one lower incisor missing; upper incisors and right upper canine injured.

**Vulpes lagopus ungava Merriam.**

Proc. Biol. Soc. Wash., XV, p. 170, August 6, 1902.

23195. Skull only. Adult male. Fort Chimo, Ungava, Labrador. Collected by L. M. Turner. Original number 2362. Catalogued January 15, 1889.

Skull nearly perfect; pterygoids chipped; third left lower premolar and second lower incisor broken off to roots.

## Genus CANIS.

**Canis estor Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 31-32, March 15, 1897.

57141. Skin and skull. Adult female. Noland ranch, San Juan River, Utah. November 20, 1893. Collected by J. A. Loring. Original number 1379.

Well-made skin in good condition; skull perfect.



**Canis frustror** Woodhouse.

Proc. Acad. Nat. Sci. Phila., V, p. 147. Recommended for publication February 4, 1851.

4105. Skin. Young. Red Fork of Arkansas River probably between 96° and 98° longitude, now Cimarron River, Oklahoma, about 100 miles west of the present Fort Gibson, Indian Territory. (See Reports Explorations and Surveys Pacific R. R., XI, 1859, p. 63, and map.) August 1850. Collected by Dr. S. W. Woodhouse on exploring expedition under command of Capt. L. Sitgreaves, U. S. A., and Lieut. I. C. Woodruff, U. S. A., in 1849 and 1850. (See p. 46, Rept. Expd. Zuni and Colorado rivers, Capt. L. Sitgreaves, 1853.) Catalogued June 26, 1860.

Specimen formerly mounted, but since made into a modern study skin. Baird in Mammals of North America and Woodhouse in the original description speak of skulls that have not yet lost their milk teeth. These skulls can not now be found nor is there any record of them in the Museum catalogue.

No type designated. The two specimens procured by Dr. S. W. Woodhouse, a male and a female, both young, do not appear to be mentioned by number in Baird's Mammals, but 4105 and 4106 are undoubtedly the two specimens that Doctor Woodhouse had. The entry of 4105 reads: " " " [*Canis latrans* written on line above] ♂ juv., Red Fork of Ark., Aug. 1850, Capt. Sitgreaves, Dr. Woodhouse, Type of *C. frustror*," all in the old original handwriting. The other specimen, 4106 ♀ juv., has the same data, but is not marked "Type of *C. frustror*."

Heretofore the type-locality of *Canis frustror* has been stated to be Fort Gibson, Indian Territory. This is the only locality mentioned in the original description, but that is where Dr. S. W. Woodhouse "first saw" the animal. He does not state where the specimens came from. That is found only by consulting the Museum catalogue.

**Canis goldmani** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 157, October 6, 1904.

133204. Skin and skull. Adult female. San Vicente, Chiapas, Mexico. April 25, 1904. Collected by E. A. Goldman. Original number 16725.

Well-made skin in good condition; skull perfect, except for absence of first left upper premolar and crown of outer right upper incisor.

**Canis lestes** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 25-26, March 15, 1897.

33347. Skin and skull. Adult male. Toyabe Mountains, near Cloverdale, Nevada. November 21, 1890. Collected by V. Bailey. Original number 2223.

Well-made skin in good condition; skull perfect, except for absence of one lower incisor and last right lower molar.

**Canis mearnsi** Merriam.

Proc. Biol. Soc. Wash., XI, p. 30, March 15, 1897.

59899. Skin and skull. Young adult male. Quitoboquito, Pima County, Arizona. February 5, 1894. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 2925. International Boundary Commission. Catalogued April 13, 1894.

Well-made skin in good condition; skull perfect, except for loss of first upper premolar, last upper and last lower molars on left side.

**Canis microdon** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 29-30, March 15, 1897.

$\frac{2}{3} \frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1}$ . Skin and skull. Adult male. Mier, Tamaulipas, Mexico. April 28, 1891. Collected by W. Lloyd. Original number 478.

Well-made skin in good condition, except for small bare space on throat; skull perfect.

**Canis pallidus** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 24-25, March 15, 1897. Preoccupied by *Canis pallidus* Rüppell, Atlas zu Reise in nördl. Afrika, I, p. 33, 1826.

= *Canis nebracensis* Merriam. Science, new ser., VIII, p. 782, December 2, 1898.

77093. Skin and skull. Young adult male. Johnstown, Nebraska. March 12, 1896. Collected by E. E. Fast. Original number 5.

Well-made skin in good condition; skull perfect.

**Canis peninsulae** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 28-29, March 15, 1897.

74245. Skin and skull. Adult male. Santa Anita, Lower California, Mexico. May 15, 1895. Collected by J. E. McLellan. Original number 1354.

Well-made skin; pelage ragged; skull perfect, except for broken right outer incisor.

**Canis nebracensis texensis** Bailey.

Biological Survey collection.

North Amer. Fauna, No. 25, pp. 175-177, October 24, 1905.

116277. Skin and skull. Young adult male. Forty-five miles southwest of Corpus Christi, Texas. December 14, 1901. Collected by J. M. Priour. Original number 3478x.

Well-made skin in good condition; skull perfect.

**Canis vigilis** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 33, March 15, 1897.

$\frac{3}{4} \frac{2}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1}$ . Skin and skull. Young adult female. Manzanillo, Colima, Mexico. February 6, 1892. Collected by E. W. Nelson. Original number 1840.

Well-made skin in good condition; several small bare spaces on underparts; skull perfect.

## Family MUSTELIDÆ.

## Genus LATAX.

**Latax lutris nereis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, p. 159, October 6, 1904.

133508. Complete disarticulated skeleton. Adult male. San Miguel Island, Santa Barbara Islands, California. July 2, 1904. Collected by G. M. McGuire. Original number 4690x.

Skull perfect, except for absence of last right and left lower molars and first left lower incisor.

## Genus PUTORIUS.

**Putorius richardsoni alascensis** Merriam. Biological Survey coll.

North Amer. Fauna, No. 11, pp. 12-13, pl. 2, fig. 2, June 30, 1896.

=**Putorius cicognani alascensis** (Merriam). See Trouessart, *Catalogus Mammalium*, p. 277, 1897.

74423. Skin and skull. Adult male. Juneau, Alaska. August 22, 1895. Collected by C. P. Streater. Original number 4806.

Well-made skin in good condition; skull perfect.

**Putorius arcticus** Merriam.

North Amer. Fauna, No. 11, p. 15, pl. 2, figs. 2, 2a, June 30, 1896.

$\frac{44}{33} \frac{0}{0} \frac{1}{1} \frac{2}{2}$ . Skin and skull. Adult male. Point Barrow, Alaska. July 16, 1883. Collected by John Murdoch, U. S. Signal Service. Explorations in Alaska under Lieut. P. L. Ray, U. S. A. Original number 1672. Skin catalogued January 16, 1884; skull July 25, 1888.

Well-made skin in good condition. Skull nearly perfect; left malar broken; and a crack runs through right frontal and nasal.

**Putorius culbertsoni** Coues. Chirotypes.

U. S. Geol. Surv. of Terr., Misc. Pub. No. 8, *Fur-Bearing Animals*, p. 136, 1877.

=**Putorius longicauda** (Bonaparte). See Coues, *loc. cit.*

$\frac{4320}{37995}$ . Skin and skull. Fort Laramie, Wyoming. December, 1859. Collected by Dr. F. V. Hayden. Exploration of headwaters of Missouri and Yellowstone, under Capt. W. F. Reynolds, U. S. A. Original number 75. Skin catalogued November 22, 1860; skull, January 22, 1902.

Specimen remade into a fairly good study skin in January, 1902, and skull removed. Tail lost, scorched about the rump; skull perfect.

The other chirotype, 4325, can not be found. The entry in the catalogue corresponding to that number is "*Putorius culbertsoni*, Ft. Union [now Fort Buford, North Dakota], Aug. 8.60, G. H. Trook."

Chirotypes designated by number. Coues gives the species as a synonym of *Putorius longicauda*, thus: "*Putorius culbertsoni*, Bd MSS. Mus. Smiths (labels of nos. 4320, 4325)."

**Putorius frenatus goldmani** Merriam. Biological Survey collection.

North. Amer. Fauna, No. 11, pp. 28-29, June 30, 1896.

77519. Skin and skull. Adult male. Pinabete, Chiapas, Mexico. February 10, 1896. Collected by E. A. Goldman. Original number 9279.

Well-made skin in good condition; skull with rostrum badly injured, lacking most of right nasal, upper part of right maxillary and postorbital processes; two outer upper incisors missing.

**Putorius haidarum** Preble. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 169-170, August 10, 1898.

94430. Skin and skull. Adult male. Massett, Queen Charlotte Islands, British Columbia. March 17, 1898. Collected by Rev. J. H. Keen. Original number 1800x.

Well-made skin in good condition; skull perfect.

**Putorius arcticus kadiacensis** Merriam. Biological Survey coll.

North Amer. Fauna, No. 11, p. 16, June 30, 1896.

65290. Skin and skull. Young adult male. Kodiak Island, Alaska. April 25, 1894. Collected by B. J. Bretherton. Original number 304.

Well-made skin in good condition; skull perfect, except for broken supra-occipital, basioccipital, and right audital bulla; left outer upper incisor missing.

**Putorius kaneii** Baird.

Mammals of North America, p. 172, 1857.

$\frac{2330}{37990}$ . Skin (summer pelage) and skull. Adult. Arikamtchitchi Island (Arikam Island), Bering Strait (see footnote in Baird's Mammals of North America, p. 173), Tchuktchi Country, Siberia. Collected by W. Stimpson; received from Capt. J. Rodgers, U. S. N. Original number 358. Skin catalogued March, 1857; skull, January 11, 1902.

Specimen was made into a fairly good modern study skin and skull removed in January, 1902. Brain case of skull broken away, anterior parts, however, quite complete.

No type specified. Baird listed two specimens, No. 1458 from Semipalatinsk, Siberia, in winter pelage, received from the Bremen Museum, through Dr. G. Hartlaub, and the above, No. 2330. Most of the description appears to be based upon summer pelages as in number 2330 and specimens from "among the collections of the North Pacific and Behring's Straits Expedition." Further on Baird says, "A winter specimen, 1458, from Semipalatinsk, Siberia, is very similar in size and the characters of the tail." This would indicate that 1458 was not considered quite typical and leaves 2330 as the type.

**Putorius streatori leptus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVI, pp. 76-77, May 29, 1903.

56800. Skin and skull. Young adult male. Silverton, Colorado. October 20, 1893. Collected by J. A. Loring. Original number 1185.

Well-made skin in good condition; skull perfect.

***Putorius frenatus leucoparia* Merriam.** Biological Survey coll.

North Amer. Fauna, No. 11, pp. 29-30, June 30, 1896.

$\frac{3}{4}$   $\frac{2}{1}$   $\frac{1}{4}$ . Skin and skull. Adult male. Patzcuaro, Michoacan, Mexico. July 27, 1892. Collected by E. W. Nelson. Original number 2960.

Well-made skin in good condition. Skull lacking most of brain-case except a fragment of the parietals and supraoccipital; rostrum, left zygoma, palate, and dentition intact; mandible intact except for absence of right coronoid.

***Putorius xanthogenys oregonensis* Merriam.** Biol. Survey coll.

North Amer. Fauna, No. 11, pp. 25-26, June 30, 1896.

$\frac{3}{4}$   $\frac{2}{1}$   $\frac{1}{4}$ . Skin and skull. Adult female. Grants Pass, Rogue River Valley, Oregon. December 19, 1891. Collected by C. P. Streater. Original number 1404.

Well-made skin in good condition; skull perfect, except for absence of first left upper premolar.

***Putorius tropicalis perdus* Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 67-68, March 22, 1902.

100041. Skin and skull. Adult male. Teapa, Tabasco, Mexico. March 31, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14074.

Well-made skin in good condition; skull perfect.

***Putorius saturatus* Merriam.** Biological Survey collection.

North Amer. Fauna, No. 11, pp. 21-22, June 30, 1896.

65930. Skin and skull. Adult male. Siskiyou, Oregon. June 6, 1894. Collected by C. P. Streater. Original number 3905.

Well-made skin in good condition; skull perfect.

***Putorius streator* Merriam.** Biological Survey collection.

North Amer. Fauna, No. 11, pp. 13-14, pl. 2, figs. 5-6, June 30, 1896.

76646. Skin and skull. Adult male. Mount Vernon, Skagit Valley, Washington. February 29, 1896. Collected by D. H. Luckey. Original number 3.

Well-made skin in good condition; skull perfect.

***Putorius tropicalis* Merriam.** Biological Survey collection.

North Amer. Fauna, No. 11, pp. 30-31, pl. 3, figs. 5-6, June 30, 1896.

54994. Skin and skull. Adult male. Jico, Vera Cruz, Mexico. July 9, 1893. Collected by E. W. Nelson. Original number 5195.

Well-made skin in good condition; skull perfect, except for absence of four upper incisors; right upper canine broken.

**Putorius washingtoni** Merriam. Biological Survey collection.

North Amer. Fauna, No. 11, pp. 18-19, pl. 4, figs. 3-4, June 30, 1896.

76322. Skin and skull. Adult male. Trout Lake, base of Mount Adams, Washington. December 15, 1895. Collected by D. N. Kaegi. Original number 2.

Well-made skin in good condition; skull perfect, except for absence of left outer upper incisor.

## Genus LUTREOLA.

**Lutreola vison ingens** Osgood.

North Amer. Fauna, No. 19, p. 42, pl. 4, fig. 2, October 6, 1900.

6530. Skull only. Old adult, probably male. Fort Yukon, Alaska. February 15, 1862. Collected by Robert Kennicott. Original number 262. Catalogued in spring of 1865.

Skull perfect.

**Lutreola vison lacustris** Preble. Biological Survey collection.

North Amer. Fauna, No. 22, p. 66, October 31, 1902.

106872. Skin and skull. Young adult male. Echimamish River, Keewatin, Canada. September 14, 1900. Collected by E. A. and A. E. Preble. Original number 3518.

Well-made skin in good condition; skull perfect, except for broken tip of left nasal and slight fracture of left parietal.

**Lutreola macrodon** Prentiss.

Proc. U. S. Nat. Mus., XXVI, No. 1336, p. 887, fig. a, July 6, 1903.

115178. Fragments of skull. Pre-Columbian shell heaps, Brooklin, Hancock County, Maine. 1897. Collected by Drs. F. W. True and D. W. Prentiss, Jr.

"Condition of type.—Fragments of skull composed of the superior maxilla, portions of the nasals, right zygoma, and palate extending 6 mm. back of molars. All the teeth are present on the right side, three incisors and one premolar on the left side. The teeth are in excellent condition except the canine, which is broken at the point, and portion of enamel missing. The bones are very brittle and of a yellowish color on their broken surface." Prentiss, *loc. cit.*

## Genus MUSTELA.

**Mustela americana abieticola** Preble.

North Amer. Fauna, No. 22, p. 68, October 31, 1902.

142255. Skin and skeleton. Adult male. Cumberland House, Saskatchewan, Canada. February, 1890. Collected by R. MacFarlane. Original number 54. Catalogued January 17, 1891.

Rather poorly made skin, but in good condition. The entire skeleton is present. The digits of the fore feet, the middle and distal phalanges of the digits of the hind feet, and the last few caudal vertebrae are in the skin. The skull is slightly injured, posterior half of left zygoma broken, left auditory bulla and adjoining portions of *basis cranii* broken.

**Mustela americana actuosa** Osgood.

North Amer. Fauna, No. 19, p. 43, pl. 7, fig. 2, October 6, 1900.

6043. Skull. Old adult male. Fort Yukon, Alaska. November, 1860. Collected by Robert Kennicott. Original number 1017. Catalogued April 18, 1863.

Skull nearly perfect; right malar lost, the two lower middle incisors and the first right upper premolar are wanting, and a U-shaped piece has been broken out of the basioccipital. The catalogue calls for skin 6413, but it can not be found.

**Mustela nesophila** Osgood.

Biological Survey collection.

North Amer. Fauna, No. 21, pp. 33-34, pl. 5, figs. 3-4, September 26, 1901.

78066. Skull only. Adult male. Massett, Graham Island, Queen Charlotte Islands, British Columbia. Collected by Rev. J. H. Keen.

Skull earth or smoke stained; perfect, except for absence of incisors, left lower canine, two left and two right lower premolars, and last right lower molar.

**Mustela caurina origenes** Rhoads.

Proc. Acad. Nat. Sci. Phila., 1902, p. 458, September 30, 1902.

112170. Skin and skull. Young adult female. Marvine Mountain, Colorado. September 16, 1901. Collected by Ernest T. Seton. Catalogued October 14, 1901.

Well-made skin in good condition; skull perfect.

## Genus SPILOGALE.

**Spilogale ambigua** Mearns.

Preliminary Diagnoses of New Mammals of the Genera Lynx, Urocyon, Spilogale, and Mephitis, from the Mexican Boundary Line, p. 3, January 12, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1126, p. 460, December 24, 1897.)

$\frac{2}{3}$   $\frac{0}{5}$   $\frac{3}{6}$   $\frac{0}{0}$   $\frac{2}{0}$ . Skin and skull. Adult male. Eagle Mountain, Chihuahua, Mexico, about 4 miles south of monument No. 15, Mexican boundary line, lat.  $31^{\circ} 47'$ , long.  $30^{\circ} 15'$ . March 23, 1892. Collected by Dr. E. A. Mearns, U. S. A., and F. X. Holzner. Original number 1574. International Boundary Commission. Catalogued July 28, 1892.

Well-made skin in good condition. Skull nearly perfect; right canine and two adjacent incisors somewhat broken.

**Spilogale angustifrons** Howell.

Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 242, December 16, 1902.

50825. Skin and skull. Adult male. Talpam, Federal District, Mexico. December 15, 1892. Collected by E. W. Nelson and E. A. Goldman. Original number 4035.

Well-made skin in good condition; skull perfect, except for slightly fractured nasals.

**Spilogale angustifrons elata** Howell. Biological Survey collection.

North Amer. Fauna, No. 26, pp. 27-28, pl. 9, figs. 7-9, November 24, 1906.

133186. Skin and skull. Adult male. San Bartolomé, Chiapas, Mexico. March 19, 1904. Collected by E. A. Goldman. Original number 16618.

Well-made skin in good condition; skull perfect.

**Spilogale gracilis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 3, pp. 83-84, September 4, 1890.

$\frac{17}{24} \frac{88}{97}$ . Skin and skull. Adult male. Bottom of Grand Canyon of the Colorado, at altitude of 3,500 feet, north of San Francisco Mountain, Arizona. September 12, 1889. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 451.

Well-made skin in good condition; skull perfect, except for a perforation of the inner wall of the right orbit.

**Spilogale indianola** Merriam.

North Amer. Fauna, No. 4, p. 10, October 8, 1890.

1621. Skull only. Young adult. Indianola, Matagorda Bay, Texas. Collected by J. H. Clark, old Mexican boundary survey. Catalogued February 15, 1855.

Skull perfect.

**Spilogale phenax latifrons** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, p. 15, October 8, 1890.

$\frac{17}{24} \frac{88}{97}$ . Skin and skull. Old female. Roseburg, Douglas County, Oregon. July 13, 1889. Collected by Dr. T. S. Palmer. Original number 216.

Well-made skin in good condition. Skull lacking right audital bulla, basioccipital, basisphenoid, pterygoids, and most of supraoccipital; zygomata broken; palate fractured; mandible missing.

**Spilogale lucasana** Merriam.

North Amer. Fauna, No. 4, p. 11, October 8, 1890.

$\frac{3}{2} \frac{7}{10}$ . Skin and skull. Adult. Cape St. Lucas, Lower California, Mexico. Collected by John Xantus. Original number  $\frac{9}{10}$ . Catalogued in October, 1860.

Specimen formerly mounted, but it is now a well-made skin in good condition; some hair is lost from the tail; skull perfect, except right upper canine is broken off at alveolus.

**Spilogale microdon** Howell. Biological Survey collection.

North Amer. Fauna, No. 26, pp. 34-35, pl. 10, figs. 4-6, November 24, 1906.

145887. Skin and skull. Adult male. Comondu, Lower California, Mexico. November 8, 1905. Collected by E. W. Nelson and E. A. Goldman. Original number 18501.

Well-made skin in good condition; skull perfect.



**Spilogale ringens** Merriam. Biological Survey collection.

North Amer. Fauna, No. 4, pp. 9-10, fig. 2 (p. 2), October 8, 1890.

=**Spilogale putorius** (Linnaeus). See Howell, North Amer. Fauna, No. 26, p. 15, November 24, 1906.

$\frac{3}{8} \frac{3}{8} \frac{1 \frac{1}{2}}{4 \frac{1}{2}}$ . Skin and skull. Adult female. Greensboro, Alabama. August 2, 1890. Collected by C. S. Brimley. Original number 50.

Well-made skin in good condition. Skull with numerous shot perforations; right audital bulla and most of right side of brain-case absent, left audital bulla injured, right coronoid broken.

**Spilogale tenuis** Howell. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 241-242, December 16, 1902.

99365. Skin and skull. Adult male. Arkins, Colorado. November 13, 1899. Collected by R. S. Weldon. Original number 2198x.

Well-made skin in good condition; skull perfect.

**Spilogale angustifrons tropicalis** Howell. Biological Survey coll.

Proc. Biol. Soc. Wash., XV, p. 242, December 16, 1902.

73523. Skin and skull. Adult male. San Mateo del Mar, Oaxaca, Mexico. May 16, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7958.

Well-made skin in good condition; skull perfect, except for absence of left mastoid bulla, interorbital region considerably injured by parasites.

Genus **MEPHITIS**.**Mephitis estor** Merriam. Biological Survey collection.

North Amer. Fauna, No. 3, pp. 81-82, pl. 10, figs. 1-4, September 4, 1890.

$\frac{1 \frac{1}{4}}{4} \frac{1 \frac{1}{4}}{4} \frac{1 \frac{1}{2}}{4}$ . Skin and skull. Adult male. San Francisco Mountain, Arizona. August 17, 1889. Collected by V. Bailey. Original number 369.

Well-made skin in good condition; skull perfect.

**Mephitis frontata** Coues.

Bull. U. S. Geol. and Geog. Surv. Terr., 2d ser., No. 1, p. 7, fig. 1, 1875.

2232. Post-Pliocene skull. Old adult. Dales Cave, 3 miles from Lansburg, Pennsylvania. Collected by Secretary S. F. Baird. Catalogued March, 1856.

Skull in good condition for a subfossil; left zygoma lacking and right somewhat broken, two large holes in the brain-case dorsally and anteriorly, two upper and two lower incisors lacking.

**Chincha occidentalis major** Howell. Biological Survey collection.

North Amer. Fauna, No. 20, pp. 37-38, August 31, 1901.

=**Mephitis occidentalis major** (Howell). See Allen, Bull. Amer. Mus. Nat. Hist., XIV, p. 334, November 12, 1901.

92238. Skin and skull. Adult male. Fort Klamath, Oregon. January 5, 1898. Collected by B. L. Cunningham. Original number 80 (1188x).

Well-made skin in good condition; skull perfect, except for slightly broken left zygoma.

### **Mephitis milleri** Mearns.

Preliminary Diagnoses of New Mammals of the Genera *Mephitis*, *Dorcelaphus*, and *Dycotyles* from the Mexican Border of the United States, p. 1, February 11, 1897. (Reprinted in Proc. U. S. Nat. Mus., XX, No. 1129, p. 467, December 24, 1897.)

=*Mephitis macroura milleri* (Mearns). See Allen, Bull. Amer. Mus. Nat. Hist., XIV, p. 334, November 12, 1901.

58851. Skin and skull. Adult male. Fort Lowell, near Tucson, Arizona. November 13, 1893. Collected by F. X. Holzner. Original number 1109. International Boundary Commission. Catalogued December 13, 1893.

Well-made skin in good condition; skull perfect.

### **Chincha occidentalis notata** Howell. Biological Survey collection.

North Amer. Fauna, No. 20, pp. 36-37, pl. 3, fig. 2, August 31, 1901.

=*Mephitis occidentalis notata* (Howell). See Allen, Bull. Amer. Mus. Nat. Hist., XIV, p. 334, November 12, 1901.

87043. Skin and skull. Adult male. Trout Lake, Mount Adams, Washington. March 22, 1897. Collected by P. Schmid. Original number 243x.

Well-made skin in good condition; skull perfect, except for broken left mastoid bulla.

### **Mephitis occidentalis** Baird.

Mammals of North America, p. 194, 1857.

2617. Skull. Adult, probably male. Petaluma, California. Collected by E. Samuels. Original number 837. Catalogued December 10, 1856.

Skull perfect except for loss of 15 mm. of right zygoma. There used to be a skin, No. 1944, marked in the catalogue "Destroyed Jan. 8, 1886."

No type designated. A table of detailed measurements is given of  $\frac{1}{2}\frac{1}{3}\frac{1}{4}$ , and this one should be regarded as the type. Four specimens are listed: 2031, skull from Santa Clara, California; 2434, skull;  $\frac{1}{2}\frac{1}{3}\frac{1}{4}$ , the above skin and skull both from Petaluma, and a fourth specimen, skin without number, from Steilacoom, Washington. Baird's brief diagnosis is based upon both cranial and skin characters, so that again preference must be given to  $\frac{1}{2}\frac{1}{3}\frac{1}{4}$ , the only skin with skull which he had.

Petaluma is regarded as the type locality by Miller and Rehn (Proc. Boston Soc. Nat. Hist., XXX, p. 214, December, 1901), and by Howell (North Amer. Fauna, No. 20, p. 34, August 31, 1901).

**Chincha platyrhina** Howell. Biological Survey collection.

North Amer. Fauna, No. 20, p. 39, August 31, 1901.

- = **Mephitis platyrhina** (Howell). See Allen, Bull. Amer. Mus. Nat. Hist., XIV, p. 334, November 12, 1901.

$\frac{3}{4}$  $\frac{1}{1}$  $\frac{2}{2}$  $\frac{3}{3}$  $\frac{4}{4}$ . Skin and skull. Adult male. South Fork of Kern River, 25 miles east of Kernville, California. July 5, 1891. Collected by V. Bailey. Original number 2998.

Well-made skin in good condition; skull perfect.

Genus **CONEPATUS**.**Conepatus filipensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 163-164, August 6, 1902.

68172. Skin and skull. Adult male. Cerro San Felipe, Oaxaca, Mexico. August 24, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6619.

Well-made skin in good condition; skull perfect.

**Conepatus pediculus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., p. 164, August 6, 1902.

116953. Skin and skull. Young adult male. Sierra Guadalupe, Coahuila, Mexico. April 25, 1902. Collected by E. W. Nelson and E. A. Goldman. Original number 15123.

Well-made skin in good condition; skull perfect.

**Conepatus sonoriensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 162-163, August 6, 1902.

95914. Skin and skull. Young adult female. Camoa, Rio Mayo, Sonora, Mexico. October 29, 1898. Collected by E. A. Goldman. Original number 13213.

Well-made skin in good condition; skull perfect.

**Conepatus mesoleucus telmalestes** Bailey. Biological Survey coll.

North Amer. Fauna, No. 25, pp. 203-205, fig. 24, October 24, 1905.

136551. Skin and skull. Adult male. Big Thicket, 7 miles north-east of Sour Lake, Texas. March 17, 1905. Collected by J. H. Gaut. Original number 3485.

Well-made skin in good condition; skull perfect.

**Conepatus leuconotus texensis** Merriam. Biological Survey coll.

Proc. Biol. Soc. Wash., XV, p. 162, August 6, 1902.

$\frac{3}{4}$  $\frac{4}{4}$  $\frac{5}{5}$  $\frac{6}{6}$  $\frac{7}{7}$  $\frac{8}{8}$ . Skin and skull. Adult male. Brownsville, Texas. July 20, 1892. Collected by F. B. Armstrong. Original number 70.

Well-made skin in good condition; skull perfect, except for slightly broken right zygoma.

**Conepatus tropicalis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 164-165, August 6, 1902.

63650. Skin and skull. Male(?) adult. Motzorongo, Vera Cruz, Mexico. February 26, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5903.

Well-made skin in good condition; skull perfect, except for absence of second left lower premolar and two lower incisors.

Genus TAXIDEA.

**Taxidea berlandieri** Baird.

Mammals of North America, p. 205, 1857.

=**Taxidea taxus berlandieri** (Baird). See Allen, Bull. Amer. Mus. Nat. Hist., VII, p. 256, June 29, 1895.

1710. Skin (no skull). Male. Llano Estacado, Texas. May 8, 1855. Received from Capt. J. Pope, U. S. A. Catalogued in 1856.

Formerly mounted. Made into a fairly good study skin in February, 1902.

Baird's description is based upon one specimen, the above, designated by number.

**Taxidea americana neglecta** Mearns.

Bull. Amer. Mus. Nat. Hist., III, p. 250, June 5, 1891.

=**Taxidea taxus neglecta** (Mearns). See Miller and Rehn, Proc. Boston Soc. Nat. Hist., XXX, p. 218, December 27, 1901.

$\frac{2}{4} \frac{8}{1} \frac{3}{3} \frac{5}{6}$ . Skin and skull. Adult male. Fort Crook, Shasta County, California. March 25, 1859. Collected by John Feilner. Original number 313. Catalogued in 1860.

Well-made skin in good condition (skin remade in January, 1902). Skull nearly perfect, a rather large hole in right bulla; three left upper incisors, first right upper incisor, and last right lower molar lost.

Family PROCYONIDÆ.

Genus PROCYON.

**Procyon lotor insularis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, p. 17, January 27, 1898.

88978. Skin and skull. Old male. Maria Madre Island, Tres Marias Islands, Mexico. May 10, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10985.

Well-made skin in good condition; skull perfect.

**Procyon psora pacifica** Merriam. Biological Survey collection.

North Amer. Fauna, No. 16, p. 107, October 28, 1899.

93137. Skin and skull. Adult. Kichelos Lake, Washington. January 15, 1898. Collected by C. Hansen. Original number 1409x.

Well-made skin in good condition; skull perfect, except for slight fracture of right nasal and perforation in right audital bulla.

**Procyon pallidus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIII, pp. 151-152, June 13, 1900.

99272. Skin and skull. Adult female. New River, Colorado Desert, California. October 16, 1899. Collected by F. Stephens. Original number 3022 (2246x).

Well-made skin in good condition. Skull perfect, except for absence of second left upper incisor and last right upper molar; right audital bulla broken.

**Procyon pygmaeus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 101, July 19, 1901.

108511. Skin and skull. Young adult male. Cozumel Island, Yucatan, Mexico. April 14, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14698.

Well-made skin in good condition; skull perfect.

Genus **NASUA**.**Nasua narica molaris** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 68, March 22, 1902.

$\frac{32}{44} \frac{66}{55} \frac{39}{33}$ . Skin and skull. Adult male. Manzanillo, Colima, Mexico. February 7, 1892. Collected by E. W. Nelson. Original number 1844.

Well-made skin in good condition; skull perfect, except for absence of second right and left upper premolars and three upper and four lower incisors.

**Nasua nelsoni** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XIV, p. 100, July 19, 1901.

108520. Skin and skull. Old male. Cozumel Island, Yucatan, Mexico. April 8, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14673.

Well-made skin in good condition; skull perfect, except for broken right audital bulla and perforation in palate.

Genus **BASSARISCUS**.**Bassaris raptor** Baird.

Report Mexican Boundary Survey, II, Pt. 2, p. 19, January, 1859.

=*Bassariscus raptor* (Baird). See Merriam, Proc. Biol. Soc. Wash., XI, p. 186, July 1, 1897.

$\frac{97}{376}$ . Skin, skull, and nearly all of the skeleton except the usual leg bones left in the skin. Killed in a hen roost near Washington, D. C., April 23, 1852. It was supposed to have been brought from California and kept in captivity, whence it escaped. A collar mark shows plainly around the neck. Catalogued April 26, 1852.

Specimen has been made into a modern study skin and is in fair condition, although the hair has a dirty yellow color, looking as though at one time preserved in alcohol. The skull is in fair condition. It is somewhat cracked posteriorly, the left malar is wanting, and the following teeth are missing: Third

upper premolar, left side; all the lower incisors and the last lower molar, right side. All the bones of the skeleton are apparently present except the bones from the forearm distally and from the leg distally.

Type indirectly designated by number, and the collar mark and original label leave no doubt as to the specimen Baird had in mind.

**Bassariscus saxicola** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 185-186, July 1, 1897.

79031. Skin and skull. Adult female. Espiritu Santo Island, Lower California, Mexico. August 19, 1895. Collected by J. E. McLellan. Original number 1438.

Well-made skin in good condition; skull perfect.

Genus BASSARICYON.

**Bassaricyon gabbii** Allen.

Proc. Acad. Nat. Sci. Phila., 1876, p. 23, pl. 1, fig. 1, April 18, 1876; Proc. Acad.

Nat. Sci. Phila., 1877, pp. 267, 268, and pl. 2 of what was supposed to be the entire animal, but what in reality is an illustration of *Nasua narica*.

14214. Skull. Adult. Talamanca, Costa Rica. Collected by Prof. W. M. Gabb. Original number 44. Catalogued November 19, 1874.

A U-shaped piece is lacking from the basioccipital, and there is a large hole in the basisphenoid between the pterygoids. The following teeth are present in the upper jaw: The last three teeth on the right side, the last tooth and the second from the last and the third from the last on the left side. The following teeth are missing in the lower jaw: In the left side the last molar, the third premolar, and the third incisor; on the right side the second incisor.

According to the catalogue there should be a skin bearing No. 12237. It has never been found in the Museum collection. In a letter dated May 12, 1908, Dr. J. A. Allen remarks: "In reference to the type of *Bassaricyon gabbii*, I never saw a skin belonging to the type skull. Through some error in cataloguing a skin of *Nasua narica* purported to belong to the skull, and I figured it as such, being at that time unfamiliar with the species of *Nasua*. Careful search was made for the missing skin after the error was discovered, but I am sure it was never found. My knowledge of the external characters of *Bassaricyon* is based on a living specimen of *B. alleni* which I saw some years ago in the London Zoo."

Type designated by number on page 20 of the original description.

Family URSIDÆ.

Genus URSUS.

**Ursus horribilis alascensis** Merriam. Cotypes. Biol. Survey coll.

Proc. Biol. Soc. Wash., X, p. 74, April 13, 1896.

In the description of this subspecies no type was designated. In the collection are 6 skulls from Norton Sound, Alaska, which Dr. C. Hart Merriam had at the time the original description was written. Three of them were left unlabeled and one of these designated by No. 76470 is mentioned as not typical. The 3 remain-

ing skulls bear the name *Ursus alascensis* in Doctor Merriam's handwriting and are therefore considered as cotypes of this form. These 3 skulls are:

76465. Skull only. Young adult female. Shaktolik River, Norton Sound, Alaska. Received January, 1896. Original number 1.

Skull perfect, except for repaired fracture of right zygoma, broken right upper and left lower canines, and loss of second right upper and first right lower premolars.

76467. Skull only. Adult male. Head of Koyuk River, Norton Sound, Alaska. Collected May, 1893. Original number 3.

Skull perfect, except for loss of 4 middle upper incisors, first and second right and first left upper premolars, 3 lower incisors, first and second right and first left lower premolars.

This is the only adult male skull labeled as *Ursus alascensis* by Doctor Merriam at the time the description was published and is the only one showing all the characters mentioned.

76469. Skull only. Young (permanent dentition in place but entirely unworn). Probably male. Shaktolik Hills, Norton Sound, Alaska. June, 1890. Original number 5.

Skull perfect, except for loss of 2 upper and 1 lower incisors, first and second right and left upper premolars, and first right and left lower premolars.

#### ***Ursus horribilis californicus* Merriam.**

Proc. Biol. Soc. Wash., X, p. 76, fig. 15, April 13, 1896.

3630. Skull only. Old adult. Monterey, California. Collected by A. S. Taylor. Catalogued October 7, 1859.

Skull in good condition. It is old and most of the teeth are much worn. The canines are split and cracked in the usual way of large teeth; the second lower molar on the left side is nearly decayed away. The whole ascending ramus of the right half of the mandible and the right pterygoid bone are lacking, probably shot away; otherwise skull perfect.

No type designated, but a skull is figured (fig. 15) in the original description, and this skull is regarded as the type. The number 3630 on the skull is quite legible in the figure.

#### ***Ursus (Euarctos) carlottæ* Osgood.** Biological Survey collection.

North Amer. Fauna, No. 21, pp. 30-32, pl. 4, fig. 1, September 26, 1901.

87620. Skull only. Adult male. Massett, Graham Island, Queen Charlotte Islands, British Columbia. November, 1896. Collected by Rev. J. H. Keen. Original number 497x.

Skull perfect, except for absence of first right lower incisor and first right upper premolar.

#### ***Ursus dalli* Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., X, pp. 71-73, pl. 5, fig. 1; pl. 6, fig. 5; figs. 8-9 in text, April 13, 1896.

75048. Skull only. Old male. Yakutat Bay, Alaska. September 8, 1895. Collected by chief of Yakutat Indians. Original number 2.

Skull perfect.

**Ursus americanus eremicus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, pp. 154-155, October 6, 1904.

116952. Skin and skull. Adult female. Sierra Guadalupe, Coahuila, Mexico. April 21, 1902. Collected by E. W. Nelson and E. A. Goldman. Original number 15111.

Well-made skin in good condition, except for bare spot on abdomen; skull perfect except slightly injured second and third upper incisors; canines cracked.

**Ursus eulophus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 153, October 6, 1904.

81102. Skull only. Adult male. Admiralty Island, Alaska. 1896. Collected by G. T. Emmons.

Skull perfect, except for large bullet hole passing from left parietal through brain-case and out of right frontal.

**Ursus floridanus** Merriam.

Proc. Biol. Soc. Wash., X, p. 81, April 13, 1896.

3484. Skull only. Old adult (male, *fdæ* Merriam). Key Biscayne, Dade County, Florida. May 21, 1858. Collected by G. Wurde-  
mann. Original number 4. Catalogued March 4, 1859.

Skull without lower jaw, left zygoma entirely broken away, also anterior half of right zygoma. A large hole through the interorbital region, but without injury to the frontal region above it or the palate below it. The second upper incisor of the right side and the small second premolar on both sides lacking, left upper canine somewhat broken.

**Ursus dalli gyas** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 78, March 22, 1902.

91669. Skull only. Adult male. Pavlof Bay, Alaska Peninsula. 1897. Collected by W. Pavlof. Original number 1052x.

Skull perfect, except for absence of first right and left upper premolars, second left upper incisor, and first and second right lower incisors.

**Ursus horribilis horræus** Baird. Lectotype.

Report Mexican Boundary Survey, II, Pt. 2, p. 24, January, 1859.

990. Skull only. Adult male. Old copper mines, near the Rio Mimbres, Grant County, New Mexico, near the present location of Georgetown. Collected by J. H. Clark. Catalogued November 1, 1852.

Skull perfect, except for loss of 3 upper incisors, 3 of the small upper pre-  
molars, 5 lower incisors, and first left lower premolar; both upper canines, and left lower canine, and last right lower molar broken off to alveoli; absence of right coronoid process of mandible, and repaired fracture of right angular and condyloid processes.

No type was designated in the original description. The above specimen was designated as "the type", that is a lectotype, by Dr. C. Hart Merriam (Proc.



Biol. Soc. Wash., X, p. 75, April 13, 1896). Secretary Baird had two other specimens in his hands at the time the subspecies was described, No. 995, skull only, a young male, with same data as the lectotype, and figured *op. cit.*, pl. 20; and No.  $\frac{1}{2}047$  (incorrectly designated by Secretary Baird as No. 147), an adult male from Los Nogales, Sonora, Mexico. In many respects No. 1047 might be considered the type, as the diagnosis of the form and much of the description is based upon this specimen. The skin was in poor condition in Secretary Baird's time and has apparently been destroyed; the skull is in fair condition. This specimen was evidently considered the type by Miller and Rehn (Proc. Boston Soc. Nat. Hist., XXX, p. 233, December, 1901) as the type-locality given by them is Los Nogales, Sonora, Mexico.

Written on the skull in old writing is: | "Said to have a | touch of the Grizzly  
| by an old hunter | hair brown however" | J. H. C. | "Probably a cross" |

**Ursus kenaiensis** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 154, October 6, 1904.

128672. Skull only. Adult female. Cape Elizabeth, Kenai Peninsula, Alaska. 1903. Collected by C. A. Lambert. Original number 4205x.

Skull perfect.

**Ursus kidderi** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, pp. 78-79, March 22, 1902.

116562. Skin and skull. Young adult male. Chinitna Bay, Alaska Peninsula, Alaska. June 9, 1901. Collected by J. H. Kidder. Original number 3661x.

Tanned skin in good condition; skull perfect.

**Ursus middendorffi** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., X, pp. 69-71; pl. 4, figs. 2-3; pl. 5, fig. 2; pl. 6, fig. 2; fig. 7 in text, April 13, 1896.

54793. Skull only. Adult male. Kodiak Island, Alaska. July 3, 1893. Collected by B. J. Bretherton. Original number 176.

Skull perfect, except for fractured left squamosal and left audital bulla and a small bullet hole passing from the left frontal through the brain-case and out of the right parietal.

**Ursus horribilis phæonyx** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XVII, p. 154, October 6, 1904.

133231. Skin and skull. Old female. Near head of Comet Creek, tributary of Fortymile Creek, Alaska. July 12, 1903. Collected by W. H. Osgood. Original number 2684.

Tanned skin in good condition; foot pads missing; skull perfect, except for absence of first left lower incisor; most of molariform teeth worn to roots.

Order INSECTIVORA.

Family ERINACEIDÆ.

Genus PODOGYMNURA.

**Podogymnura truei** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 437, May 13, 1905.

125286. In alcohol (skull removed). Adult female. Mount Apo (at 6,000 feet), southern Mindanao, Philippine Islands. June 25, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5667. Catalogued December 13, 1904.

Alcoholic in good condition; anterior half of skull in good condition; brain-case badly broken and in many fragments.

Family TALPIDÆ.

Genus SCAPANUS.

**Scalops æneus** Cassin.

Proc. Acad. Nat. Sci. Phila., VI, p. 299, this paper was reported favorably for publication February 22, 1853.

=**Scapanus townsendi** (Bachman). See True, Proc. U. S. Nat. Mus., XIX, No. 1101, p. 51; pp. 58 and 64. December 21, 1896.

3725. Skin (no skull). Oregon. Collected by the U. S. Exploring Expedition. Catalogued December 20, 1859.

In good state of preservation, but rather badly made up. As Dr. True states (*loc. cit.*), the specimen has every appearance of having been discolored by immersion in alcohol or other preserving fluid.

The original description says, "A single specimen, apparently fully adult, is in the collection of the Exploring Expedition, labeled as having been obtained in Oregon." No. 3725 is undoubtedly this "single specimen."

**Scapanus alpinus** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 102, April 26, 1897.

79967. Skin and skull. Adult male. Crater Lake, Mount Mazama, Oregon. August 18, 1896. Collected by V. Bailey. Original number 5784.

Well-made skin in good condition; skull perfect.

**Scalops californicus** Ayres.

Proc. California Acad. Nat. Sci., I, 1854-1857, p. 54, description presented May 21, 1855.

=**Scapanus latimanus** (Bachman). See Osgood, Proc. Biol. Soc. Wash., XX, p. 52, April 18, 1907.

3111. Skeleton. Adult. San Francisco, California. Collected by Dr. W. O. Ayres. Catalogued February, 1857.

A partially cleaned skeleton, in fair condition, all parts of which appear to be present except the right manus and forearm. Skull is well cleaned and perfect

except loss of last left upper molar. The side view of this skull is figured by True (Proc. U. S. Nat. Mus., XIX, No. 1101, pl. 3, fig. 3).

This skeleton is one of Dr. Ayres's original specimens, and probably the only one of them now in existence. It seems well to treat it as a type, although it was not so indicated by the original describer.

### **Scapanus orarius** True.

Proc. U. S. Nat. Mus., XIX, No. 1101, December 21, 1896, p. 52.

$\begin{smallmatrix} 1^3 8^1 \\ 3^7 4^3 4^1 \end{smallmatrix}$ . Skin and skull. Adult female. Shoalwater Bay, Washington. August 30, 1855. Collected by Dr. J. G. Cooper. Skin catalogued February 26, 1856; skull, May 23, 1898.

Specimen recently made into a good study skin. The posterior half of the cranium is broken off, though most of it is still present; the part of the skull anterior to the middle of the cranium and the mandibles, perfect.

Type designated by number 381, an error for 1381.

### **Scapanus truei** Merriam.

Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 102, April 26, 1897.

79290. Skin and skull. Adult. Lake City, Modoc County, California. June 15, 1896. Collected by C. P. Streater. Original number 5289.

Well-made skin in good condition; skull perfect, except for slight irregularity of foramen magnum.

## Genus DYMECODON.

### **Dymecodon pilirostris** True.

Proc. U. S. Nat. Mus., IX, p. 97, September 25, 1886.

$\begin{smallmatrix} 1^5 2^2 2^1 1^1 \\ 2^2 1^3 3^1 \end{smallmatrix}$ . Alcoholic (skull removed). Immature male. Mouth of Yeddo Bay, Yenosima, Japan. Collected by Prof. E. S. Morse. Received from the Boston Society of Natural History February 19, 1878. Catalogued December 21, 1885.

The alcoholic is in rather bad condition. Considerable hair has slipped from the belly. It has been split open from the chin nearly to the anus, to permit the removal of the skull and shoulder girdle. The right zygoma is lacking and the left basal portion of the brain case is injured, both ascending rami of the mandible broken.

The single specimen is referred to by number in the original description.

## Genus NEÜROTRICHUS.

### **Urotrichus gibbsii** Baird.

Mammals of North America, p. 76, pl. 28, 1857.

=*Neürotrichus gibbsii* (Baird). See Günther, Proc. Zool. Soc. London, 1880, pl. 42, June 1, 1880.

$\begin{smallmatrix} 6^6 2^2 \\ 1^8 4^3 3^1 \end{smallmatrix}$ . Skin and skull. Immature. White River, Cascade Mountains, Washington. July 15, 1854. Collected by George Gibbs.

Original number 15. Received from Dr. George Suckley. Catalogued May 7, 1855.

Skin in rather poor condition, badly made, and left fore foot detached. Skull quite fragmentary and of value only to show the teeth, some of which are of the deciduous set. All the tooth rows are intact.

Baird had but one specimen, which he designated by number.

**Neütrichus gibbsi major** Merriam. Biological Survey collection.

North Amer. Fauna, No. 16, p. 88, October 28, 1899.

65321. Skin and skull. Adult male. Carberry ranch, Shasta County, California. May 18, 1894. Collected by C. P. Streator. Original number 3789.

Well-made skin in good condition; skull perfect.

Family SORICIDÆ.

Genus CROCIDURA.

**Crocidura andamanensis** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 777, pl. 41, 6, 6a, 6b, May 28, 1902.

111825. Skin and skull. Adult male. South Andaman Island, Andaman Islands. January 16, 1901. Collected by Dr. W. L. Abbott. Original number 851. Catalogued August 15, 1902.

Well-made skin in good condition; skull perfect.

**Crocidura caudata** Miller.

Proc. Biol. Soc. Wash., XIV, p. 42, April 25, 1901.

103302. In alcohol (skull removed). Young adult female. Palermo, Sicily. June 21, 1900. Collected by Dane Coolidge. Original number 1365. Catalogued October 3, 1900.

Alcoholic in fair condition; intestines have been removed, some hair has slipped from left leg. Tip of tail is flattened by some accident. Skull rather badly broken about the right posterior half of brain-case.

**Crocidura lignicolor** Miller.

Proc. Wash. Acad. Sci., II, p. 39, March 30, 1900.

62180. Skin (skull lost). Adult female. Jungles east of Maralbashi on the Yarkand River, Eastern Turkestan. January 10, 1894. Collected by Dr. W. L. Abbott. Catalogued May 16, 1895.

Well-made skin in good condition. The Museum catalogue calls for a skull, which can not be found.

**Crocidura mimula** Miller.

Proc. Biol. Soc. Wash., XIV, p. 95, fig. 1b, June 27, 1901.

105801. Skin and skull. Adult female. Zuberwangen, St. Gallen, Switzerland. December 1, 1900. Collected by Ernst H. Zollikofer. Original number 192. Catalogued June 4, 1901.

Well-made skin in good condition; skull perfect, except for loss of right tympanic ring.

**Crocidura nicobarica** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 776, May 28, 1902.

111788. In alcohol (skull removed). Adult female. Great Nicobar, Nicobar Islands. March 15, 1901. Collected by Dr. W. L. Abbott. Original number 931. Catalogued August 14, 1901.

Specimen well preserved. It contains a large fetus. Tip of tail, hind feet and ankles, left fore foot and tip of snout have been somewhat nibbled, probably by ants. Skull perfect.

**Crocidura shantungensis** Miller.

Proc. Biol. Soc. Wash., XIV, p. 158, August 9, 1901.

86151. Skin and skull. Adult. Chimeh, Shantung, northern China. June, 1898. Collected by Paul D. Bergen. Catalogued January 19, 1899.

Well-made skin in good condition. Skull was formerly in the skin, but has been removed; all the parts posterior to the upper tooth rows are broken away; anterior portion and mandible complete.

**Crocidura sicula** Miller.

Proc. Biol. Soc. Wash., XIV, p. 41, April 25, 1901.

103301. Skin and skull. Adult male. Palermo, Sicily. June 20, 1900. Collected by Dane Coolidge. Original number 1332. Catalogued October 3, 1900.

Well-made skin in good condition; skull perfect.

## Genus MYOSOREX.

**Myosorex muricauda** Miller.

Proc. Wash. Acad. Sci., II, p. 645, fig. 42, December 28, 1900.

83809. In alcohol (skull removed). Adult male. Mount Coffee, Liberia, West Africa. April 5, 1897. Collected by R. P. Currie. Original number 32. Catalogued September 23, 1897.

Alcoholic, in good condition; skull removed and perfect.

## Genus NEOMYS.

**Neomys fodiens minor** Miller.

Proc. Biol. Soc. Wash., XIV, p. 45, April 25, 1901.

101311. Skin and skull. Adult male. Montréjeau, Hautes Pyrennes, France (in foothills of Pyrennes). July 8, 1899. Collected by Robert T. Young. Original number 641. Catalogued October 11, 1899.

Well-made skin in good condition; skull perfect, except for loss of both tympanic rings.

## Genus BLARINA.

**Blarina alticola** Merriam. Biological Survey collection.

North. Amer. Fauna, No. 10, pp. 27-28, December 31, 1895.

52047. Skin and skull. Adult male. Mount Popocatepetl, Mexico. February 25, 1893. Collected by E. W. Nelson. Original number 4396.

Well-made skin in good condition; skull perfect.

**Blarina angusticeps** Baird.

Mammals of North America, p. 47, 1857.

= **Blarina brevicauda** (Say). See Merriam, North Amer. Fauna, No. 10, pp. 6 and 10, December 31, 1895.

$\frac{13}{2} \frac{18}{20}$ . Skin and skull. Burlington, Vermont. Collected by Prof. Z. Thompson. Original number 203. Catalogued February, 1856.

Skin in fair condition; some hair has sloughed from the sides and belly. Skull has several teeth lacking from the upper jaw, and the tympanic, periotic, and mastoid bones of both sides absent.

Baird had but one specimen, which he specified by number.

**Blarina berlandieri** Baird.

Mammals of North America, p. 53, pl. 28, No. 2159, 1857.

2159. In alcohol, skull not removed. Vicinity of Matamoras, Mexico. Probably collected by Dr. J. L. Berlandier. Received from Lieut. D. N. Couch, U. S. A. Catalogued February 14, 1857.

In good condition, save for some sloughing of hair about the belly. The skull remains inside. Baird's figure of the skull must have been made from one of the paratypes, but the lips have been loosened in order that teeth may be seen.

Four specimens,  $\frac{13}{2} \frac{18}{20}$ ,  $\frac{13}{2} \frac{18}{20}$ , 2159, and 2160, all from the same locality, are listed in the original description. Of these 2159 is here regarded as the type, since it is figured on pl. 28.

**Blarina exilipes** Baird.

Mammals of North America, p. 51, pl. 28, No. 2157, 1857.

= **Blarina parva** (Say). See Merriam, North Amer. Fauna, No. 10, pp. 6-7 and 17, December 31, 1895.

2157. In alcohol, skull not removed. Washington, Mississippi. Collected by Col. B. L. C. Wailes, U. S. A. Catalogued February 14, 1857.

No specimen is designated as the type; eight specimens are listed by Baird, of which No. 2157 is figured on pl. 28. For that reason it is considered as the type.

Specimen rather the worse for shedding of hair on the posterior parts of body. The skull has not been removed, so that a skull of one of the paratypes is probably figured.

**Blarina floridana** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 19, pl. 1, fig. 7, December 31, 1895.

$\frac{6510}{3337}$ . In alcohol, skull removed. Chester Shoal, 11 miles north of Cape Canaveral, Florida. April 22, 1889. Collected by M. M. Green. Original number 44.

Specimen in good condition. Skull perfect, except for broken supraoccipital; angular processes of mandible missing.

**Blarina fossor** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 28, December 31, 1895.

68545. Skin and skull. Adult female. Mount Zempoaltepec, Oaxaca, Mexico. July 10, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6419.

Well-made skin in good condition; skull perfect.

**Blarina mexicana goldmani** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 25, December 31, 1895.

70244. Skin and skull. Young adult male. Mountains near Chilpancingo, Guerrero, Mexico. December 23, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 7231.

Well-made skin in good condition; skull perfect.

**Blarina mexicana machetes** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 26, December 31, 1895.

71456. Skin and skull. Adult female. Mountains near Ozolotepec, Oaxaca, Mexico. March 26, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 7723.

Well-made skin in good condition; skull perfect.

**Blarina magna** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, pp. 28-29, pl. 1, fig. 10, December 31, 1895.

68575. Skin and skull. Adult male. Totontepec, Oaxaca, Mexico. July 24, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6493.

Well-made skin in good condition; skull perfect.

**Blarina mayensis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., III, p. 559, November 29, 1901.

108087. Skin and skull. Adult female. Chichenitza, Yucatan, Mexico. February 5, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14495.

Well-made skin in good condition; skull perfect, except for absence of basioccipital and part of supraoccipital.

**Blarina (Soriciscus) mexicana** Coues.

Bull. U. S. Geol. and Geog. Surv., III, p. 652, May 15, 1877.

$\frac{35}{4} \frac{2}{3} \frac{5}{8}$ . Skin and skull. Jalapa, Vera Cruz, Mexico. Collected by R. Montis d'Oca. Skin catalogued March 18, 1859; skull September, 1861.

Skin in fair condition, considering the time at which it was collected; skull perfect, except the posterior part of the cranium.

**Blarina nelsoni** Merriam.

Biological Survey collection.

North Amer. Fauna, No. 10, pp. 26-27, December 31, 1895.

65437. Skin and skull. Adult female. Volcano of Tuxtla, Vera Cruz, Mexico. May 13, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6253.

Well-made skin in good condition; skull perfect.

**Blarina obscura** Merriam.

Biological Survey collection.

North Amer. Fauna, No. 10, p. 23, December 31, 1895.

55634. Skin and skull. Young adult female. Tulancingo, Hidalgo, Mexico. August 27, 1893. Collected by E. W. Nelson. Original number 5377.

Well-made skin in good condition; skull perfect, except for slightly broken exoccipital, angular process of left mandible missing.

**Blarina carolinensis peninsulæ** Merriam.

Biological Survey coll.

North Amer. Fauna, No. 10, pp. 14-15, December 31, 1895.

=*Blarina brevicauda peninsulæ* (Merriam). See Trouessart, Catalogus Mammalium, p. 188, 1897.

70874. Skin and skull. Adult male. Miami River, Dade County, Florida. March 2, 1895. Collected by J. A. Loring. Original number 2777.

Well-made skin, with small abdominal patch of hair sloughed; skull perfect, except for absence of left audital bulla.

**Blarina mexicana peregrina** Merriam.

Biological Survey collection.

North Amer. Fauna, No. 10, pp. 24-25, December 31, 1895.

68317. Skin and skull. Adult male. Mountains 15 miles west of Oaxaca, Oaxaca, Mexico. September 12, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6748.

Well-made skin in good condition; skull perfect.

**Blarina soricina** Merriam.

Biological Survey collection.

North Amer. Fauna, No. 10, pp. 22-23, pl. 1, fig. 9, December 31, 1895.

50762. Skin and skull. Adult male. Tlalpam, Valley of Mexico, Mexico. December 5, 1892. Collected by E. W. Nelson. Original number 3989.

Well-made skin in good condition; skull perfect.



**Blarina telmalestes** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, pp. 15-16, pl. 2, fig. 5, December 31, 1895.

71823. Skin and skull. Adult female. Lake Drummond, Dismal Swamp, Virginia. June 6, 1895. Collected by Dr. A. K. Fisher. Original number 1775.

Well-made skin in good condition; skull perfect.

## Genus NOTIOSOREX.

**Sorex (Notiosorex) crawfordi** Coues.

Bull. U. S. Geol. and Geog. Surv., III, pp. 646 and 651, May 15, 1877.

=**Notiosorex crawfordi** (Coues). See Merriam, North Amer. Fauna, No. 10, p. 32, December 31, 1895.

$\frac{2653}{4137}$ . In alcohol, skull removed. Fort Bliss, New Mexico (near El Paso, Texas). Collected by Dr. S. W. Crawford, U. S. A. Alcohol catalogued April 28, 1857; skull, September, 1861.

Body in alcohol in very poor condition. At some time the alcohol had been allowed to evaporate, so that everything about the specimen is now hard and shrunken. It is practically a mummy preserved in alcohol. Skull perfect.

**Sorex (Notiosorex) evotis** Coues.

Bull. U. S. Geol. and Geog. Surv., III, p. 652, May 15, 1877.

=**Notiosorex crawfordi evotis** (Coues). See Merriam, North Amer. Fauna, No. 10, p. 34, December 31, 1895.

9066. Skin (no skull). Along the Rio Mazatlan, Sinaloa, Mexico. February, 1868. Collected by Ferdinand Bischoff. Explorations in the North Pacific. Catalogued May 31, 1868.

All parts of skin present but it is poorly made up; tail not skinned out; left hind foot and right fore foot present, but broken off from the skin. The specimen looks as if it had originally been made up with part of the skull in it, which had subsequently been removed and lost. Coues evidently had the skull, but no mention of it is made in the Museum Catalogue.

**Notiosorex gigas** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 227-228, July 15, 1897.

88012. Skin and skull. Adult female. Mountains at Milpillas, near San Sebastian, Jalisco, Mexico. March 15, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10706.

Well-made skin in good condition; skull perfect.

## Genus SOREX.

**Sorex obscurus alascensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, pp. 76-77, December 31, 1895.

73539. Skin and skull. Young adult female. Yakutat, Alaska. July 10, 1895. Collected by C. P. Streater. Original number 4676.

Well-made skin in good condition; skull perfect.

**Sorex navigator alaskanus** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, p. 18, March 14, 1900.

97713. Skin and skull. Adult male. Point Gustavus, Glacier Bay, Alaska. June 12, 1899. Collected by Dr. A. K. Fisher. Original number 2058.

Well-made skin in good condition; skull perfect.

**Neosorex albibarbis** Cope.

Proc. Acad. Nat. Sci. Phila., 1862, p. 188, ordered published April 29, 1862.

=**Sorex albibarbis** (Cope). See Merriam, Proc. Biol. Soc. Wash., VII, p. 25, April, 1892.

11239. In alcohol, skull not removed. Adult female. Profile Lake, New Hampshire. September, 1859. Collected by Prof. E. D. Cope. Catalogued between February and May, 1873.

Specimen in fair condition. Skull not removed.

No type designated. Cope took two specimens. The above seems to be one of them. The entry in the original catalogue reads: "*Neosorex albi\*\*\*\*is* (the omitted letters belong to a word root probably intended to mean 'cheek' instead of 'beard'), Profile Lake, N. H., type." The handwriting is entirely different from any of the other handwritings in the catalogue.

**Sorex (Atophyrax) bendirii albiventer** Merriam. Biol. Survey coll.

North Amer. Fauna, No. 10, pp. 97-98, December 31, 1895.

66198. Skin and skull. Adult male. Lake Cushman, Olympic Mountains, Washington. July 7, 1894. Collected by C. P. Streater. Original number 4021.

Well-made skin in good condition; skull perfect.

**Sorex (Microsorex) alnorum** Preble. Biological Survey collection.

North Amer. Fauna, No. 22, pp. 72-73, October 31, 1902.

107014. Skin and skull. Adult female. Robinson Portage, Keewatin, Canada. June 27, 1900. Collected by E. A. and A. E. Preble. Original number 2662.

Well-made skin in good condition; skull perfect.

**Sorex araneus alticola** Miller.

Proc. Biol. Soc. Wash., XIV, p. 43, April 25, 1901.

=**Sorex araneus nuda** Fatio. See Mottaz, Mém. Soc. Zool. France, XX, p. 26, September, 1907.

85930. Skin and skull. Adult male (not female as in original description). Meiringen, Switzerland. October 17, 1898. Collected by J. A. Loring. Original number 5731 (not 5781, as in original description). Catalogued December 27, 1898.

Well-made skin in good condition, except small bare spot on right flank; skull perfect.

**Sorex amœnus Merriam.** Biological Survey collection.

North Amer. Fauna, No. 10, pp. 69-70, December 31, 1895.

=*Sorex vagrans amœnus* (Merriam). See Merriam, *op. cit.*, No. 16, p. 87, October 28, 1899.

$\frac{2}{4} \frac{17}{18} \frac{8}{8} \frac{4}{3}$ . Skin and skull. Adult male. Mammoth Pass, head of Owens River, east slope Sierra Nevada, California. July 22, 1891. Collected by E. W. Nelson. Original number 1129.

Well-made skin in good condition; skull perfect.

**Sorex personatus arcticus Merriam.** Biological Survey collection.

Proc. Wash. Acad. Sci., II, p. 17, March 14, 1900.

99305. Skin and skull. Adult female. St. Michael, Alaska. September 14, 1899. Collected by W. H. Osgood. Original number 910.

Well-made skin in good condition; skull perfect.

**Sorex bairdi Merriam.** Biological Survey collection.

North Amer. Fauna, No. 10, pp. 77-78, pl. 7, figs. 3-3a, December 31, 1895.

$\frac{1}{4} \frac{7}{4} \frac{4}{3} \frac{1}{8}$ . Skin and skull. Adult female. Astoria, Oregon. August 2, 1889. Collected by Dr. T. S. Palmer. Original number 270.

Well-made skin in good condition; skull perfect.

**Sorex californicus Merriam.** Biological Survey collection.

North Amer. Fauna, No. 10, pp. 80-81, pl. 12, figs. 6-7, December 31, 1895.

$\frac{3}{4} \frac{2}{4} \frac{5}{5} \frac{7}{8} \frac{8}{8}$ . Skin and skull. Adult male. Walnut Creek, Contra Costa County, California. February 15, 1892. Collected by C. P. Streater. Original number 1583.

Well-made skin in good condition; skull perfect.

**Sorex saussurei caudatus Merriam.** Biological Survey collection.

North Amer. Fauna, No. 10, pp. 84-85, December 31, 1895. Preoccupied by *Sorex caudatus* Hodgson, Horsfield's Cat. Mamm. Mus. E. India Co., p. 135, 1851.

=*Sorex saussurei mutabilis* Merriam. Science, new ser., VIII, p. 782, December 2, 1898.

69600. Skin and skull. Young adult female. Reyes, Oaxaca, Mexico. October 21, 1894. Collected by E. W. Nelson. Original number 6963.

Well-made skin in good condition; skull perfect.

**Sorex dobsoni Merriam.** Biological Survey collection.

North Amer. Fauna, No. 5, pp. 33-34, pl. 4, fig. 2, July 30, 1891.

=*Sorex vagrans dobsoni* (Merriam). See Merriam, *op. cit.*, No. 10, p. 68, December 31, 1895.

$\frac{2}{3} \frac{1}{6} \frac{2}{7} \frac{4}{8}$ . Skin and skull. Adult female. Sawtooth (also called Alturas) Lake, Idaho. October 3, 1890. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 1929.

Well-made skin in good condition; skull lacking entire brain-case and left angular process of mandible, otherwise complete.

**Sorex longicauda classodon** Osgood. Biological Survey collection.

North Amer. Fauna, No. 21, pp. 35-36, September 26, 1901.

100597. Skin and skull. Young adult male. Cumshewa Inlet, Moresby Island, Queen Charlotte Islands, British Columbia. June 13, 1900. Collected by W. H. Osgood and E. Heller. Original number 1030.

Well-made skin in good condition; skull perfect.

**Sorex araneus euronotus** Miller.

Proc. Biol. Soc. Wash., XIV, p. 44, April 25, 1901.

101321. Skin and skull. Adult male. Montréjeau, Hautes Pyrennes, France (in foothills of Pyrennes). July 8, 1899. Collected by Robert T. Young. Original number 642. Catalogued October 11, 1899.

Well-made skin in good condition; skull perfect.

**Sorex (Microsorex) eximius** Osgood. Biological Survey collection.

North Amer. Fauna, No. 21, p. 71, September 26, 1901.

107126. Skin and skull. Adult female. Tyonek, Cook Inlet, Alaska. September 14, 1900. Collected by W. H. Osgood and E. Heller. Original number 1395.

Well-made skin in good condition; skull perfect.

**Sorex fimbripes** Bachman.

Journ. Acad. Nat. Sci. Phila., VII, Pt. 2, p. 391, pl. 24, fig. 8, 1837.

=**Sorex personatus** I. Geoffroy. See Miller, North Amer. Fauna, No. 10, p. 53, December 31, 1895.

84556. In alcohol, skull not removed. "Was found [by Prof. Walter R. Johnson] on the high table-land on a branch of Drury's Run [Pennsylvania], a tributary of the west bank of the Susquehannah River." Catalogued April 29, 1898.

Condition of the specimen poor; most of the hair on the posterior half of body lacking, and the cheeks have been split open in order to expose the teeth.

The specimen was found in the collection in the early part of 1898 in a bottle with an old-style Museum label, without number, tied around the top, bearing the name "*Sorex fimbripes* (type)." Tied on the specimen itself is an old parchment label with the words "*Sorex fimbripes*. Type" written on it. The writing is perfectly legible, but very faint, and is not likely to last another quarter or half a century. The parchment has to be dried in order to read it. On April 29, 1898, this specimen was entered in the Museum catalogue and given the present number, 84556. No original data accompany the specimen to show where it came from, so that the locality has to be taken from Bachman's description. The writing of the old Museum label and parchment tag is unidentifiable; both labels were written many years ago and evidently by some one who knew the history of the specimen.

**Sorex fisheri** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 86, pl. 4, fig. 4, December 31, 1895.

75166. Skin and skull. Adult male. Lake Drummond, Dismal Swamp, Virginia. October 11, 1895. Collected by Dr. A. K. Fisher. Original number 1800.

Well-made skin in good condition; skull perfect.

**Sorex glacialis** Merriam. Biological Survey collection.

Proc. Wash. Acad. Sci., II, p. 16, March 14, 1900.

97709. Skin and skull. Adult male. Point Gustavus, Glacier Bay, Alaska. June 12, 1899. Collected by Dr. A. K. Fisher. Original number 2056.

Well-made skin in good condition; skull perfect.

**Sorex godmani** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, pp. 229-230, July 15, 1897.

77044. Skin and skull. Adult female. Volcan Santa Maria, Quezaltenango, Guatemala. January 28, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9239.

Well-made skin in good condition; skull perfect.

**Sorex haydeni** Baird.

Mammals of North America, p. 29, pl. 27, 1857.

=**Sorex personatus** I. Geoffroy. See Miller, North Amer. Fauna, No. 10, p. 53, December 31, 1895.

1685. In alcohol, skull not removed. Fort Union, Nebraska (now Fort Buford, North Dakota). 1855. Collected by Dr. F. V. Hayden. Catalogued October 23, 1856.

Specimen in fair condition; lips loosened and left cheek cut in order to expose all the teeth.

No type designated. Baird mentions three specimens, Nos. 1684 and 1685, from Fort Union, and No. 2048 from Fort Pierre, Nebraska; No. 1685 is here regarded as the type because it is figured on pl. 27.

**Sorex hoyi** Baird.

Mammals of North America, p. 32, pl. 28, No. 1688, 1857.

1688. In alcohol. Adult male. Racine, Wisconsin. Collected by Dr. P. R. Hoy. Catalogued October 23, 1856.

Specimen is rather stiff and more or less shrunken, but it is otherwise in good condition. The skull has never been removed, but the lips have been loosened in order to expose the front teeth.

No type designated. Two specimens are listed by number in the original description, 1688 and  $1\frac{6}{7}\frac{3}{8}$ . As the former is figured on pl. 28, it is regarded as the type.

**Sorex idahoensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 5, pp. 32-33, pl. 4, fig. 1, July 30, 1891.

= **Sorex personatus** I. Geoffroy. See Merriam, *op. cit.*, No. 10, p. 54, December 31, 1895.

$\frac{23}{30} \frac{55}{94} \frac{27}{45}$ . Skin and skull. Adult female. Timber Creek, Salmon River Mountains, Idaho. August 26, 1890. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 1674.

Well-made skin in good condition; skull perfect.

**Sorex obscurus longicauda** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 74, December 31, 1895.

74711. Skin and skull. Young adult male. Wrangel, Alaska. September 9, 1895. Collected by C. P. Streater. Original number 4891.

Well-made skin in good condition; skull perfect.

**Sorex tenellus lyelli** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 75, March 22, 1902.

109530. Skin and skull. Young adult male. Mount Lyell, Tuolumne County, California. August 29, 1901. Collected by Dr. W. K. Fisher. Original number 2275.

Well-made skin in good condition; skull perfect.

**Sorex macrodon** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 82, pl. 7, figs. 2-2a; pl. 12, figs. 12-13, December 31, 1895.

58272. Skin and skull. Young adult male. Orizaba, Vera Cruz, Mexico. January 26, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 5759.

Well-made skin in good condition; skull perfect.

**Sorex macropygmæus** Miller.

Proc. Biol. Soc. Wash., XIV, p. 158, August 9, 1901.

84012. Skin and skull. Adult male. Petropaulski, Kamchatka. September 23, 1897. Collected by Marie Stejneger (Mrs. Leonhard Stejneger). Original number 8019 (Dr. L. Stejneger). Catalogued February 28, 1898.

Fairly well-made skin, much contracted posteriorly; skull perfect.

**Sorex montereyensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 79, December 31, 1895.

$\frac{32}{44} \frac{90}{81} \frac{0}{10}$ . Skin and skull. Adult male. Monterey, California. October 1, 1891. Collected by V. Bailey. Original number 3336.

Well-made skin in good condition; skull perfect, except for fractured supra-occipital.

**Sorex monticolus Merriam.** Biological Survey collection.

North Amer. Fauna, No. 3, pp. 43-44, fig. 1, September 4, 1890.

=**Sorex vagrans monticola** (Merriam). See Merriam, *op. cit.*, No. 10, p. 69, December 31, 1895.

$\frac{1}{4} \frac{5}{8} \frac{3}{8} \frac{3}{8}$ . Skin and skull. Adult male. San Francisco Mountain, Arizona. August 28, 1889. Collected by Dr. C. Hart Merriam and V. Bailey. Original number 406.

Well-made skin in good condition; skull perfect, except for a small perforation in the palate and a larger irregular one in the upper side of the brain-case; angular processes of mandible missing.

**Sorex tenellus myops Merriam.** Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 76, March 22, 1902.

$\frac{2}{4} \frac{9}{16} \frac{5}{8} \frac{5}{8} \frac{3}{4}$ . Skin and skull. Adult female. White Mountains, California. July 13, 1891. Collected by E. W. Nelson. Original number 1101.

Well-made skin; tail complete, but detached at base; skull perfect.

**Sorex tenellus nanus Merriam.** Biological Survey collection.

North Amer. Fauna, No. 10, pp. 81-82, pl. 8, figs. 5-5a, December 31, 1895.

73773. Skin and skull. Adult female. Estes Park, Colorado. August 3, 1895. Collected by E. A. Preble. Original number 567.

Well-made skin in good condition; skull perfect, except for broken supra-occipital.

**Neosorex navigator Baird.**

Mammals of North America, p. 11, pl. 26, 1857.

=**Sorex (Neosorex) palustris navigator** (Baird). See Merriam, North Amer. Fauna, No. 10, p. 92, December 31, 1895.

$\frac{6}{1} \frac{2}{7} \frac{9}{8} \frac{9}{6}$ . Skin and skull. Fort Vancouver, Washington. According to labels and record in catalogue. Probably northern Idaho. See Merriam, *loc. cit.* Collected by Dr. J. G. Cooper. Northern Pacific Railroad Survey. Catalogued April 18, 1855.

Skin in bad condition, almost broken in two in the middle, anterior portion alone showing the hair; feet intact, also tail, which has never been skinned out; skull in good condition except for a break in the right occipital region.

Baird's single specimen is designated by number.

**Sorex nevadensis Merriam.** Biological Survey collection.

North Amer. Fauna, No. 10, pp. 71-72, December 31, 1895.

$\frac{2}{3} \frac{4}{2} \frac{8}{3} \frac{9}{0} \frac{1}{2}$ . Skin and skull. Adult male. Reese River, Nevada. November 20, 1890 (not November 24, 1890, as in original description). Collected by V. Bailey. Original number 2150.

Well-made skin in good condition; skull perfect, except for absence of angular processes of mandible.

**Sorex oreopolus** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VII, p. 173, September 29, 1892.

$\frac{33663}{45693}$ . Skin and skull. Adult male. Sierra Nevada de Colima, Jalisco, Mexico; altitude, 10,000 feet. April 22, 1892. Collected by E. W. Nelson. Original number 2517.

Well-made skin in good condition, skull perfect.

**Sorex orizabæ** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 71, December 31, 1895.

53633. Skin and skull. Adult female. Mount Orizaba, Puebla, Mexico. April 24, 1893. Collected by E. W. Nelson. Original number 4733.

Well-made skin in good condition; skull practically complete, although bisected in the interorbital region.

**Sorex ornatus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10; pp. 79-80, pl. 8, figs. 3-3a, December 31, 1895.

$\frac{31333}{43193}$ . Skin and skull. Adult male. San Emigdio Canyon, Mount Pinos, California. October 19, 1891. Collected by E. W. Nelson. Original number 1328.

Well-made skin in good condition; skull perfect, except for absence of right auditory bulla, basioccipital and some adjacent parts.

**Sorex pachyurus** Baird.

Mammals of North America, p. 20, pl. 27, 1857.

=**Sorex richardsoni** Bachman. See Miller, North Amer. Fauna, No. 10, p. 48, December, 1895.

1674. Skeleton, formerly in alcohol. Pembina, North Dakota (not Minnesota, as stated by Baird, *loc. cit.*). Collected by Charles Cavileer. Catalogued October 23, 1856.

Skeleton in fair condition; all parts of it seem to be present.

No type designated by Baird, who mentioned three specimens, the above, in alcohol at that time, and two skins, 626 from Pembina, and 638 from Ripley, Minnesota. As no. 1674 is figured on pl. 27, it is here considered the type.

**Sorex pacificus** Coues.

Bull. U. S. Geol. and Geog. Surv., III, p. 650, May 15, 1877.

3266. Skin with fragment of skull inside. Fort Umpqua, Oregon. Received from Dr. E. B. Vullum. Catalogued in March, 1858.

Skin in poor condition; torn about the mouth so as to expose what teeth are present, the unicuspid only; no filling; tail not skinned out; hair everywhere intact.



**Sorex (Atophyrax) bendirii palmeri** Merriam. Biol. Survey coll.

North Amer. Fauna, No. 10, p. 97, pl. 12, figs. 1-3, December 31, 1895.

$\frac{11\frac{2}{3}}{4\frac{1}{2}}$ . Skin and skull. Old female. Astoria, Oregon. July 29, 1889. Collected by Dr. T. S. Palmer. Original number 256.

Well-made skin in good condition; skull perfect, except for absence of right auditul bulla.

**Sorex longicauda prevostensis** Osgood. Biological Survey coll.

North Amer. Fauna, No. 21, p. 35, September 26, 1901.

100618. Skin and skull. Adult male. Prevost Island, Queen Charlotte Islands, British Columbia. July 3, 1900. Collected by W. H. Osgood and E. Heller. Original number 1089.

Well-made skin in good condition; skull perfect, except for absence of left auditul bulla.

**Sorex pribilofensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 87, pl. 9, figs. 3-3a, December 31, 1895.

30911. In alcohol. Adult female. St. Paul Island, Pribilof Islands, Bering Sea. July 29, 1891. Collected by Dr. C. Hart Merriam.

Specimen in good condition; skull not removed, apparently slightly fractured.

**Sorex salvini** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 229, July 15, 1897.

77035. Skin and skull. Adult female. Cabel, Guatemala, 10,200 feet altitude. January 12, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9057.

Well-made skin in good condition; skull perfect.

**Sorex saussurei** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., VII, pp. 173-174, September 29, 1892.

$\frac{3\frac{3}{4}}{4\frac{5}{8}}$ . Skin and skull. Adult female. Sierra Nevada de Colima, Jalisco, Mexico; altitude, 8,000 feet. April 23, 1892. Collected by E. W. Nelson. Original number 2538.

Well-made skin in good condition; skull perfect.

**Sorex sclateri** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XI, p. 228, July 15, 1897.

75872. Skin and skull. Adult female. Tumbala, Chiapas, Mexico. October 23, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8567.

Well-made skin in good condition; skull perfect.

**Sorex shastensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 16, p. 87, October 28, 1899.

95450. Skin and skull. Adult. Wagon camp, Mount Shasta, California. September 26, 1898. Collected by W. H. Osgood. Original number 317.

Well-made skin in good condition; skull perfect.

**Sorex alascensis shumaginensis** Merriam. Biological Survey coll.  
Proc. Wash. Acad. Sci., II, p. 18, March 14, 1900.

=**Sorex obscurus shumaginensis** (Merriam). See Osgood, North Amer. Fauna, No. 24, p. 50, November 23, 1904.

97993. Skin and skull. Adult male. Popof Island, Shumagin Islands, Alaska. July, 1899. Collected by De Alton Saunders. Original number 2210 (Dr. A. K. Fisher).

Well-made skin in good condition; skull perfect, except for absence of right auditory bulla.

**Sorex vagrans similis** Merriam. Biological Survey collection.  
North Amer. Fauna, No. 5, pp. 34-35, pl. 4, fig. 3, July 30, 1891.

=**Sorex obscurus** Merriam. See Merriam, *loc. cit.*, No. 10, pp. 72-73, pl. 8, figs. 1-1a, December 31, 1895.

23525. Skin and skull. Adult female. Timber Creek, Salmon River Mountains, Idaho. August 26, 1890. Collected by Dr. B. H. Dutcher, U. S. A. Original number 1670.

Well-made skin in good condition; skull perfect, except for broken supra-occipital.

**Sorex sphagnicola** Coues.

Bull. U. S. Geol. and Geog. Surv., III, p. 650, May 15, 1877.

6361. Skin (no skull). Vicinity of Fort Liard, British Columbia, Canada. Collected by W. L. Hardisty. Catalogued in April, 1863.

Specimen in very poor condition; skin without filling and completely torn in two at the middle; both front feet missing; tail and hind feet present.

**Sorex stizodon** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 98, December 31, 1895.

75885. Skin and skull. Adult female. San Cristobal, Chiapas, Mexico. September 25, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8473.

Well-made skin in good condition; skull perfect.

**Sorex personatus streatori** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, pp. 62-63, December 31, 1895.

73537. Skin and skull. Adult male. Yakutat, Alaska. July 9, 1895. Collected by C. P. Streater. Original number 4674.

Well-made skin in good condition; skull perfect.

**Sorex suckleyi** Baird.

Mammals of North America, p. 18, pl. 27, No. 1677, 1857.

=**Sorex vagrans** Baird. See Merriam, North Amer. Fauna, No. 10, p. 67, December 31, 1895.

1677. In alcohol. Fort Steilacoom, Puget Sound, Washington. 1856. Collected by Dr. George Suckley. Northern Pacific R. R. Survey. Catalogued October 23, 1856.

Specimen is in fair condition; some hair has fallen from the back. The skull has not been removed (and the skull of a paratype is the one probably figured), but the lips have been cut loose and the left cheek split so that all the teeth may be seen.

Baird had seven specimens from four different localities. The description is based upon nos. 362 and 1677. As the latter is figured on pl. 27 it is here taken as the type.

**Sorex tenellus Merriam.**

Biological Survey collection.

North Amer. Fauna, No. 10, p. 81, pl. 12, figs. 8-9, December 31, 1895.

$\frac{2}{3} \frac{5}{2} \frac{0}{4} \frac{8}{9} \frac{3}{6}$ . Skin and skull. Adult. Summit of Alabama Hills, near Lone Pine, California. December 22, 1890. Collected by E. W. Nelson. Original number 131.

Well-made skin in good condition; skull complete, but with a large section of the brain-case broken away.

**Sorex thompsoni Baird.**

Mammals of North America, p. 34, pl. 27, No. 1686, 1857.

=**Sorex hoyi** Baird. See Miller, North Amer. Fauna, No. 10, pp. 36 and 43, December 31, 1895.

1686. In alcohol. Burlington, Vermont. Collected by Prof. Zadock Thompson. Catalogued October 23, 1856.

Alcoholic in fair condition; some sloughing of hair about the belly; skull not removed, but lips loosened to expose the teeth.

No type designated. Three specimens listed, the above, and 247 from Zanesville, Ohio, and 2062 from Halifax, Nova Scotia.

As 1686 is figured on pl. 27, it is here regarded as the type. The skull figured on the same plate is probably one of the paratypes.

**Sorex trowbridgii Baird. Cotypes.**

Mammals of North America, p. 13, pl. 26, 1857.

$\frac{8}{3} \frac{1}{0} \frac{3}{6} \frac{8}{8}$ . Skin and skull. Astoria, mouth of Columbia River, Oregon. Collected by James Wayne. Received from Lieut. W. P. Trowbridge, U. S. A. Skin catalogued July, 1855, skull January, 1857.

All parts of the skin are present, but it is poorly made up and not in good condition. The skull is badly cleaned and more or less broken about the cranium, and the right half of the mandible is missing.

967. Skin (no skull). Same data as the above, with the addition that it was collected on June 10, 1855. Catalogued November, 1855.

The skin of the second cotype is even worse than that of the first. It evidently contained a skull, which has been removed and lost.

Baird lists four specimens by number, the above two and two from Steilacoom, Washington. From his remarks on page 15 it is clear that the first two form the basis of his description. On pl. 26 one of the Oregon specimens is figured (see explanation of plates, p. 742).

**Sorex tundrensis Merriam.**

Biological Survey collection.

Proc. Wash. Acad. Sci., II, pp. 16-17, March 14, 1900.

99286. Skin and skull. Adult. St. Michael, Alaska. September 13, 1899. Collected by W. H. Osgood. Original number 902.

Well-made skin in good condition; skull perfect.

**Sorex vagrans** Baird.

Mammals of North America, p. 15, pl. 26, No. 1675, 1857.

1675. In alcohol. Adult male. Shoalwater Bay, Washington. Received from Dr. J. G. Cooper. Catalogued October 23, 1856.

Specimen entirely devoid of hair, otherwise its preservation is good. The skull has not been removed (so that the skull of a paratype is probably the one that is figured), but the lips have been loosened in order to expose the teeth.

No type designated. Baird had seven specimens from four different localities. The above being figured on pl. 26, is here taken as the type.

**Sorex vancouverensis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, pp. 70-71, December 31, 1895.

71913. Skin and skull. Adult male. Goldstream, Vancouver Island, British Columbia. May 10, 1895. Collected by C. P. Streater. Original number 4592.

Well-made skin in good condition; skull perfect.

**Sorex obscurus ventralis** Merriam. Biological Survey collection.

North Amer. Fauna, No. 10, p. 75, December 31, 1895.

68342. Skin and skull. Adult male. Cerro San Felipe, Oaxaca, Mexico. August 26, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 6636.

Well-made skin in good condition; skull perfect, except for absence of angular processes of mandible.

## FAMILY TUPAIDÆ.

## Genus TUPAIA.

**Tupaia ferruginea batamana** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1502, p. 656, January 16, 1907.

142151. Skin and skull. Adult female. Senimba Bay, Batam Island, Rhio-Linga Archipelago. September 15, 1905. Collected by C. Boden Kloss. Original number 2. Catalogued January 8, 1906.

Well-made skin in good condition; skull perfect.

**Tupaia bunoæ** Miller.

Proc. Wash. Acad. Sci., II, p. 229, August 20, 1900.

101640. Skin and skull. Adult female. Pulo Bunoa, Tambelan Islands, South China Sea. August 5, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect.

**Tupaia carimatæ** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1481, p. 61, July 23, 1906.

125123. Skin and skull. Adult male. Telok Edar, Karimata Island, off west coast of Borneo. September 2, 1904. Collected by Dr.

W. L. Abbott. Original number 3716. Catalogued December 8, 1904.

Well-made skin in good condition; skull perfect, except loss of ascending portion of left half of mandible, loss of left *m*<sup>1</sup>, and a few shot holes in cranium.

**Tupaia castanea** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 54, November 6, 1903.

115608. Skin and skull. Adult female. Pulo Bintang, Rhio-Linga Archipelago. August 11, 1902. Collected by Dr. W. L. Abbott. Original number 1872. Catalogued December 31, 1902.

Well-made skin in good condition; skull perfect, except that most of the ascending portion of right half of mandible is broken away and the last two teeth in right half of mandible are missing.

**Tupaia cervicalis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 59, November 6, 1903.

121754. Skin and skull. Adult male. Tana Bala, Batu Islands, off west coast of Sumatra. February 14, 1903. Collected by Dr. W. L. Abbott. Original number 2294. Catalogued August 1, 1903.

Well-made skin in good condition; skull perfect.

**Tupaia chrysogaster** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 58, pl. 10, fig. 1, November 6, 1903.

121572. Skin and skull. Adult female. North Pagi Islands, off west coast of Sumatra. November 21, 1902. Collected by Dr. W. L. Abbott. Original number 2078. Catalogued July 29, 1903.

Well-made skin in good condition; skull perfect.

**Tupaia chrysomalla** Miller.

Proc. Wash. Acad. Sci., II, p. 232, August 20, 1900.

101710. Skin and skull. Adult female. Pulo Siantan, Anamba Islands, South China Sea. August 24, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect.

**Tupaia discolor** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 602, December 18, 1906.

124703. Skin and skull. Adult female. Tanjong Rengsam, island of Banka, east of Sumatra. May 24, 1904. Collected by Dr. W. L. Abbott. Original number 3262. Catalogued November 29, 1904.

Well-made skin in good condition; skull perfect.

**Tupaia inflata** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1498, p. 600, December 18, 1906.

124709. Skin and skull. Adult male. Tanjong Rengsam, island of Banka, east of Sumatra. May 20, 1904. Collected by Dr. W. L. Abbott. Original number 3241. Catalogued November 29, 1904.

Well-made skin in good condition; skull perfect.

**Tupaia phæura** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 157, June 11, 1902.

113148. Skin and skull. Adult male. Sinkep Island, Rhio-Linga Archipelago. September 4, 1901. Collected by Dr. W. L. Abbott. Original number 1275. Catalogued February 1, 1902.

Well-made skin in good condition; skull perfect.

**Tupaia pulonis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 56, November 6, 1903.

112449. Skin and skull. Adult female. Pulo Aor, off coast of Johore. June 7, 1901. Collected by Dr. W. L. Abbott. Original number 1023. Catalogued November 13, 1901.

Well-made skin in good condition; skull perfect.

**Tupaia sirhassenensis** Miller.

Proc. Wash. Acad. Sci., III, p. 133, March 26, 1901.

104712. Skin and skull. Adult male. Sirhassen Island, Natuna Islands. June 5, 1900. Collected by Dr. W. L. Abbott. Original number 442. Catalogued December 18, 1900.

Well-made skin in good condition; skull perfect.

**Tupaia sordida** Miller.

Proc. Wash. Acad. Sci., II, p. 231, August 20, 1900.

101747. Skin and skull. Adult male. Pulo Tioman, off south-east coast of Malay Peninsula. October 2, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Well-made skin in good condition; skull perfect.

**Tupaia nicobarica surda** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 774, May 28, 1902.

111757. Skin and skull. Adult male. Little Nicobar, Nicobar Islands. March 1, 1901. Collected by Dr. W. L. Abbott. Original number 899. Catalogued August 12, 1902.

Well-made skin in good condition; skull perfect.

**Tupaia tephura** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 57, November 6, 1903.

121752. Skin and skull. Adult female. Tana Bala, Batu Islands, off west coast of Sumatra. February 12, 1903. Collected by Dr. W. L. Abbott. Original number 2276. Catalogued August 1, 1903.

Well-made skin in good condition; skull perfect.

## Genus UROGALE.

**Urogale cylindrura** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 435, May 13, 1905.

125387. Skin and skull. Adult male. Mount Apo, at the Bagobo village of Todaya (altitude 4,000 feet), southern Mindanao, Philip-

pine Islands. July 12, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5727. Catalogued December 13, 1904.

Well-made skin in good condition; skull perfect, except loss of left  $m_2$ .

## Order DERMOPTERA.

### Family GALEOPTERIDÆ.

#### Genus GALEOPTERUS

#### **Galeopithecus aoris** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 47, November 6, 1903.

=*Galeopterus aoris* (Miller).

112428. Skin and skull. Adult female. Pulo Aor, off coast of Johore. June 8, 1901. Collected by Dr. W. L. Abbott. Original number 1028. Catalogued November 12, 1901.

Well-made skin in good condition; skull perfect.

#### **Galeopithecus gracilis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 49, pl. 6, fig. 2, November 6, 1903.

=*Galeopterus gracilis* (Miller).

104601. Skin and skull. Adult female. Sirhassen Island, Natuna Islands. June 7, 1900. Collected by Dr. W. L. Abbott. Original number 461. Catalogued December 15, 1900.

Well-made skin in good condition; skull perfect.

#### **Galeopithecus natunæ** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 50, November 6, 1906.

=*Galeopterus natunæ* (Miller).

104602. Skin and skull. Adult female. Bunguran, Natuna Islands. July 16, 1900. Collected by Dr. W. L. Abbott. Original number 573. Catalogued December 15, 1900.

Well-made skin in good condition; skull perfect.

#### **Galeopithecus pumilus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 46, pl. 6, fig. 3, November 6, 1903.

=*Galeopterus pumilus* (Miller).

104448. Skin and skull. Adult male. Pulo Adang, Butang Islands, off west coast of Malay Peninsula. December 17, 1899. Collected by Dr. W. L. Abbott. Original number 165. Catalogued November 7, 1900.

Well-made skin in good condition; skull perfect.

**Galeopithecus saturatus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 51, pl. 7, figs. 3 and 4; pl. 8, figs. 3 and 4; pl. 9, figs. 3 and 4, November 6, 1903.

=*Galeopterus saturatus* (Miller).

121750. Skin and skull. Adult female. Tana Bala, Batu Islands, off west coast of Sumatra. February 12, 1903. Collected by Dr. W. L. Abbott. Original number 2278. Catalogued August 1, 1903.

Well-made skin in good condition; skull perfect.

**Galeopithecus tuancus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 53, November 6, 1903.

=*Galeopterus tuancus* (Miller).

114375. Skin and skull. Adult female. Pulo Tuanku, Banjak Islands, west coast of Sumatra. January 22, 1902. Collected by Dr. W. L. Abbott. Original number 1454. Catalogued August 28, 1902.

Well-made skin in good condition; skull perfect.

Order **CHIROPTERA.**Family **PTEROPIDÆ.**Genus **CYNOPTERUS.****Cynopterus angulatus** Miller.

Proc. Acad. Nat. Sci. Phila., 1898, p. 316, July 25, 1898.

83569. In alcohol, skull not removed. Adult male. Trong (or Tarang), lower Siam. 1896. Collected by Dr. W. L. Abbott. Catalogued April 28, 1897.

Condition good.

**Cynopterus major** Miller.

Proc. Biol. Soc. Wash., XIX, p. 62, May 1, 1906.

141236. Skin and skull. Adult male. Mojeia River, Nias Island, off west coast of Sumatra. March 11, 1905. Collected by Dr. W. L. Abbott. Original number 4021. Catalogued July 21, 1905.

Well-made skin in good condition; skull perfect.

**Cynopterus minutus** Miller.

Proc. Biol. Soc. Wash., XIX, p. 63, May 1, 1906.

141240. Skin and skull. Adult male. Nias Island, off west coast of Sumatra. March 11, 1905. Collected by Dr. W. L. Abbott. Original number 4043. Catalogued July 21, 1905.

Well-made skin in good condition; skull perfect.



**Cynopterus pagensis** Miller.

Proc. Biol. Soc. Wash., XIX, p. 62, May 1, 1906.

121581. Skin and skull. Adult female. North Pagi Island, off west coast of Sumatra. November 12, 1902. Collected by Dr. W. L. Abbott. Original number 2028. Catalogued July 30, 1903.

Well-made skin in good condition; skull perfect, except loss of right premaxilla.

## Genus NIADIUS.

**Cynopterus princeps** Miller.

Proc. Biol. Soc. Wash., XIX, p. 61, May 1, 1906.

=*Niadius princeps* (Miller). See Miller, Proc. Biol. Soc. Wash., XIX, p. 83, June 4, 1906.

141235. Skin and skull. Adult female. Mojeia River, Nias Island, off west coast of Sumatra. March 10, 1905. Collected by Dr. W. L. Abbott. Original number 4020. Catalogued July 21, 1905.

Well-made skin in good condition, except a bare spot over left thigh; skull perfect.

## Genus PTEROPUS.

**Pteropus aldabrensis** True. Cotypes.

Description of a new species of Fruit Bat, *Pteropus aldabrensis*, from Aldabra Island, p. 1, July 14, 1893. Reprinted in Proc. U. S. Nat. Mus., XVI, No. 948, p. 533, October 21, 1893.

$\frac{20984}{36053}$  and  $\frac{20985}{36054}$ . Skins and skulls. Adult males. Aldabra Island, northwest of Madagascar. September 26 and October 5, 1892. Collected by Dr. W. L. Abbott. Catalogued June 30, 1893.

Well-made skins in good condition, except proximal extremities of bones of forearm have been cut off, so that measurements of the forearm can not be obtained; skulls perfect.

No type is specified in the original description, but these two specimens are mentioned by number and are here regarded as cotypes.

**Pteropus baveanus** Miller.

Proc. Biol. Soc. Wash., XIX, p. 63, May 1, 1906.

125482. Skin and skull. Adult male. Bawean Island, Java Sea. July 19, 1904. Collected by W. Grasshoff. Original number 16. Catalogued March 20, 1905.

Well-made skin in good condition; skull perfect, except for loss of two last upper molars and both tympanic rings.

**Pteropus cagayanus** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 433, May 13, 1905.

125289. Skin and skull. Adult male. Cagayan Sulu Island, near west side of the Sulu Sea, Philippine Islands. February 25, 1904. Col-

lected by Dr. E. A. Mearns, U. S. A. Original number 5755. Catalogued December 13, 1904.

Well-made skin in good condition; skull perfect, except for loss of tympanics and left upper canine.

**Pteropus enganus** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1472, p. 822, June 4, 1906.

140966. Skin and skull. Adult male. Pulo Dua, Engano Island, west of Sumatra. November 4, 1904. Collected by Dr. W. L. Abbott. Original number 3774. Catalogued July 17, 1905.

Well-made skin in good condition; skull perfect.

**Pteropus faunulus** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 785, May 28, 1902.

111730. Skin and skull. Adult male. Car Nicobar, Nicobar Islands. January 23, 1901. Collected by Dr. W. L. Abbott. Original number 864. Catalogued August 12, 1901.

Well-made skin in good condition; skull much damaged by shot, but glued together so that practically only the anterior half of the right zygoma is missing.

**Pteropus geminorum** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 60, November 6, 1903.

104464. Skin and skull. Adult female. South Twin Island, Mergui Archipelago. January 28, 1900. Collected by Dr. W. L. Abbott. Original number 283. Catalogued November 7, 1900.

Well-made skin in good condition; skull perfect, except for loss of tympanic rings.

**Pteropus lanensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 432, May 13, 1905.

123291. Skin and skull. Adult male. Pantar, near Lake Lanao (altitude, 1,907 feet), Mindanao, Philippine Islands. September 7, 1903. Collected by Dr. E. A. Mearns, U. S. A. Original number 5626. Catalogued January 28, 1904.

Well-made skin in good condition; skull perfect, except loss of tympanics, left  $m^3$ , left  $pm_4$ , and  $m_3$ .

**Pteropus lanigera** H. Allen.

Proc. Amer. Phil. Soc., XXVIII, p. 70, May 10, 1890.

=*Pteropus insularis* Hombron and Jacquinot. See Matschie, Flederm. des Berliner Mus. für Naturk., p. 28, 1899.

$\frac{12}{3} \frac{9}{8} \frac{6}{5}$ . Skin and skull. Said to be from the Samoan Islands, but this locality is undoubtedly incorrect. Purchased from Ward's Natural Science Establishment, Rochester, N. Y., bearing No. 4397. Catalogued August 21, 1890; skull, November 14, 1899.

Well-made skin (remade and skull removed in November, 1899) in good condition. Skull somewhat broken about the foramen magnum; two teeth are missing from the mandible.

Dr. H. Allen fails to specify the type by number, but speaks of only one specimen in his description, and that as being in Ward's Natural Science Establishment. The specimen was purchased from Ward's in August, 1890, shortly after Doctor Allen's description appeared. On the original label is written "*Pteropus lanigera* sp. nov. Samoa Is.," the italicized part being in Dr. H. Allen's handwriting.

### ***Pteropus lepidus* Miller.**

Proc. Wash. Acad. Sci., II, p. 237, fig. 16, August 20, 1900.

101670. Skin and skull. Adult female. Kaju Ara, or Saddle Island, Tambelan Islands, South China Sea. August 15, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect.

### ***Pteropus niadicus* Miller.**

Proc. Biol. Soc. Wash., XIX, p. 64, May 1, 1906.

141233. Skin and skull. Adult male. Teliwaa, Nias Island, off west coast of Sumatra. March 5, 1905. Collected by Dr. W. L. Abbott. Original number 3981. Catalogued July 21, 1905.

Well-made skin in good condition; skull perfect, except loss of tympanic rings.

### ***Pteropus samoensis* Peale. Cotypes.**

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 20, 1848.

This species is based upon material brought back by the U. S. Exploring Expedition. No type is designated, and there is nothing to show that one specimen is more typical than any other. It is inconvenient to regard all the Samoan *Pteropus* brought back by the Expedition as cotypes. Those specimens from Tutuila are here regarded as the cotypes of the species, the following quotation from the original description seeming to justify this selection: "This species was first discovered on the island of Tutuila, and subsequently on all the islands of the Samoan group; we obtained numerous specimens."

The specimens from Tutuila are as follows:

$\begin{smallmatrix} 8 & 5 & 9 & 4 \\ 2 & 6 & 6 & 2 \end{smallmatrix}$ . Collected by James Gibson. The catalogue, under remarks, says: "Specimen turned over to Dept. Comp. Anat. for exhibition." Only the skull can now be found. It has the posterior part of brain-case cut away. Skin catalogued July 30, 1866; skull, February 7, 1887.

$\begin{smallmatrix} 8 & 5 & 9 & 6 \\ 3 & 7 & 8 & 2 \end{smallmatrix}$ . Female. Original number 14. Recently made into a modern study skin in fair condition and skull removed. Posterior part of brain-case cut away, all molars of upper left hand side broken away, otherwise skull in good condition. Skin catalogued July 30, 1866; skull, February 21, 1900.

$\begin{smallmatrix} 8 & 5 & 9 & 7 \\ 3 & 7 & 8 & 7 \end{smallmatrix}$ . Collected by W. Elliott. Recently made into a modern study skin, in fair condition, and skull removed. Skull nearly perfect,

both tympanic bones and posterior half of right zygoma missing; right half of mandible broken into two portions. Skin catalogued July 30, 1866; skull, February 26, 1900.

### **Pteropus vociferus** Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 19, 1848.

3961. Skin. Adult male. Island of Mangsi, straits of Balabac. Collected by U. S. Exploring Expedition (1838-1842). Original number 7. Catalogued May 31, 1860.

Specimen once mounted and on exhibition, then packed away in storage, but taken out March 31, 1902. It is in fair condition for an old specimen, evidently bleached. It had no skull inside, nor is there any record of one.

Peale speaks of but one specimen, a male, and unquestionably it is No. 3961, catalogued as *Pteropus macklotii* Temminck from Mangsi.

## Family EMBALLONURIDÆ.

### Genus EMBALLONURA.

### **Emballonura anambensis** Miller.

Proc. Wash. Acad. Sci., II, p. 236, fig. 15, August 20, 1900.

101716. In alcohol (skull removed). Adult female. Pulo Mobur, Anamba Islands, South China Sea. August 26, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

Alcoholic in good condition; skull perfect.

### **Emballonura peninsularis** Miller.

Proc. Acad. Nat. Sci. Phila., 1898, p. 323, July 12, 1898.

83575. In alcohol (skull removed). Adult male. Trong (or Tarang), lower Siam. November, 1896. Collected by Dr. W. L. Abbott. Catalogued April 28, 1897.

Posterior portion of the brain-case largely broken away; skull otherwise complete; alcoholic in good condition.

### **Vespertilio semicaudatus** Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 23, 1848.

=*Emballonura semicaudata* (Peale). See Wagner, Suppl. Schreber's Säugeth., V, p. 698, 1855.

3727. Mummy, dried from alcohol. No skull. Samoan Islands. Collected by the U. S. Exploring Expedition, 1838-'42. Catalogued December 20, 1859.

Skin with wings spread and wing-membranes torn in places. Skin of head badly torn and mutilated, probably due to a clumsy extraction of the skull, which has been lost. Right ear missing.

There is very little doubt that the above is the type. The description is based upon a single specimen collected by the U. S. Exploring Expedition from the Samoan Islands.

## Family MEGADERMIDÆ.

## Genus MEGADERMA.

**Megaderma carimatæ** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1481, p. 63, July 23, 1906.

125185. In alcohol (skull removed). Adult female. Tanjong Karimata Tua, Karimata Island, off west coast of Borneo. August 31, 1904. Collected by Dr. W. L. Abbott. Original number 3709. Catalogued December 9, 1904.

Alcoholic in good condition; skull perfect.

## Genus LAVIA.

**Lavia rex** Miller.

Proc. Biol. Soc. Wash., XVIII, p. 227, December 9, 1905.

= *Lavia frons frons* (Geoffroy). See Andersen and Wroughton, *Ann. Mag. Nat. Hist.* (7th ser.), XIX, p. 139, February, 1907.

133187. In alcohol (skull removed). Adult male. Taveta, German East Africa. 1889. Collected by Dr. W. L. Abbott. Alcoholic catalogued June 24, 1890; skull, February 18, 1904.

Alcoholic in good condition; skull badly broken, mandible and rostrum perfect, and three fragments of brain-case present.

## Family RHINOLOPHIDÆ.

## Genus RHINOLOPHUS.

**Rhinolophus circe** Andersen.<sup>a</sup>

Proc. U. S. Nat. Mus., XXIX, No. 1440, p. 657, March 7, 1906.

141343. In alcohol. Adult male. Pulo Nias, off west coast of Sumatra. March 15, 1905. Collected by Dr. W. L. Abbott. Original number 4094. Catalogued July 24, 1905.

**Rhinolophus hirsutus** Andersen.<sup>a</sup>

*Ann. Mag. Nat. Hist.* (7th ser.), XVI, p. 289, September, 1905.

105487. In alcohol. Adult female. Guimará's Island, Philippine Islands. December, 1887. Collected by Prof. J. B. Steere. Catalogued May 14, 1901.

**Rhinolophus inops** Andersen.<sup>a</sup>

*Ann. Mag. Nat. Hist.* (7th ser.), XVI, p. 284, September, 1905.

125314. In alcohol (skull removed). Adult male. Todaya, Mount Apo (4,000 feet), southern Mindanao, Philippine Islands. July 8, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5713. Catalogued December 13, 1904.

<sup>a</sup> See footnote, page viii.

**Rhinolophus minutus** Miller.

Proc. Wash. Acad. Sci., II, p. 235, August 20, 1900. Preoccupied by *Vespertilio minutus* Montagu. Applied to the British race of *Rhinolophus hipposideros*. (See Andersen, Proc. Zool. Soc. London, 1905, II, p. 129.)

=*Rhinolophus minutillus* Miller. See Proc. Biol. Soc. Wash., XIX, p. 41, February 26, 1906.

101715. In alcohol (skull removed). Adult male. Pulo Siantan, Anamba Islands, South China Sea. September, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Alcoholic in good condition; skull in good condition, except posterior portion of brain-case much broken, represented by a few small fragments.

**Rhinolophus nereis** Andersen.<sup>a</sup>

Proc. Zool. Soc. London, 1905, II, p. 90, October 17, 1905.

101714. In alcohol (skull removed). Adult female. Pulo Siantan, Anamba Islands, South China Sea. September, 1899. Collected by Dr. W. L. Abbott. Catalogued January 20, 1900.

**Rhinolophus affinis nesites** Andersen.<sup>a</sup>

Proc. Zool. Soc. London, 1905, II, p. 104, October 17, 1905.

104753. In alcohol. Adult female. Bunguran, Natuna Islands. July 24, 1900. Collected by Dr. W. L. Abbott. Catalogued December 18, 1900.

**Rhinolophus trifolius niasensis** Andersen.<sup>a</sup>

Proc. U. S. Nat. Mus., XXIX, No. 1440, p. 658, March 7, 1906.

141350. In alcohol. Adult male. Pulo Nias, off west coast of Sumatra. March 15, 1905. Collected by Dr. W. L. Abbott. Original number 4088. Catalogued July 24, 1905.

**Rhinolophus solitarius** Andersen.<sup>a</sup>

Ann. Mag. Nat. Hist. (7th ser.), XVI, p. 250, August, 1905.

124767. In alcohol (skull removed). Adult male. Tanjong Pamuja, island of Banka, between Sumatra and Borneo. June 18, 1904. Collected by Dr. W. L. Abbott. Original number 3415. Catalogued December 2, 1904.

**Rhinolophus spadix** Miller.

Proc. Wash. Acad. Sci., III, p. 136, March 26, 1901.

104752. In alcohol (skull removed). Adult female. Sirhassen Island, Natuna Islands. June 5, 1900. Collected by Dr. W. L. Abbott. Catalogued December 18, 1900.

Alcoholic in good condition, right forearm broken; skull perfect.

**Rhinolophus virgo** Andersen.<sup>a</sup>

Proc. Zool. Soc. London, 1905, II, p. 88, October 17, 1905.

101966. In alcohol. Adult female. Southern coast of Luzon, province of South Camarines, Philippine Islands. 1899-1900. Collected by L. M. McCormick. Catalogued February 19, 1900.

<sup>a</sup> See footnote page VIII.

## Family HIPPOSIDERIDÆ.

## Genus HIPPOSIDEROS.

**Hipposideros barbensis** Miller.

Proc. Wash. Acad. Sci., 11, p. 233, August 20, 1900.

101625. Skin and skull. Adult male. Ste. Barbe Island, South China Sea. August 1, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect, except posterior portion somewhat broken.

**Hipposideros nicobarulæ** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 781, May 28, 1902.

111874. In alcohol (skull removed). Adult male. Little Nicobar, Nicobar Islands. March 2, 1901. Collected by Dr. W. L. Abbott. Catalogued August 17, 1901.

Alcoholic in good condition; skull perfect.

## Family PHYLLOSTOMIDÆ.

## Genus CHILONYCTERIS.

**Chilonycteris mexicana** Miller. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1902, pp. 401-403, September 12, 1902.

=*Chilonycteris rubiginosa mexicana* (Miller). See Rehn, Proc. Acad. Nat. Sci. Phila., 1904, p. 203, March 29, 1904.

89277. Skin and skull. Adult male. San Blas, Tepic, Mexico. June 9, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11132.

Well-made skin in good condition; skull perfect.

**Chilonycteris portoricensis** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 400, September 12, 1902.

102358. Skin and skull. Adult female. Cave near Pueblo Viejo, Porto Rico, West Indies. March 19, 1900. Collected by Drs. L. Stejneger and C. W. Richmond. Original number "G." Catalogued June 2, 1900.

Well-made skin in good condition; skull perfect, except for loss of right malar.

## Genus MORMOOPS.

**Mormoops intermedia** Miller.

Proc. Biol. Soc. Wash., XIII, p. 160, October 31, 1900.

102174. In alcohol (skull not removed). Adult female. Cave at Hatto, on the north coast of Curaçao, West Indies. April 29, 1900. Collected by Leon J. Guthrie. Catalogued May 22, 1900.

Specimen is in "brown phase" and in fairly good condition; skin broken on the back over lumbar vertebræ; skull not removed.

**Mormoops megalophylla senicula** Rehn.

Proc. Acad. Nat. Sci. Phila., 1902, p. 169, June 11, 1902.

84801. Skin and skull. Adult female. Fort Clark, Kinney County, Texas. December 3, 1897. Collected by Dr. E. A. Mearns, U. S. A. Original number 4273. Catalogued August 23, 1898.

Well-made skin in good condition; skull perfect.

## Genus MICRONYCTERIS.

**Micronycteris megalotis mexicanus** Miller. Biological Survey coll.

Proc. Acad. Nat. Sci. Phila., 1898, pp. 329-330, July 27, 1898.

52105. In alcohol (skull not removed). Adult female. Plantinar, Jalisco, Mexico. April 4, 1892. Collected by E. W. Nelson. Original number 2389.

Specimen in good condition; skull not removed.

**Micronycteris microtis** Miller.

Proc. Acad. Nat. Sci. Phila., 1898, p. 328, July 12, 1898.

$1\frac{2}{3}$   $\frac{3}{4}$   $\frac{3}{4}$   $\frac{3}{4}$ . Skin and skull. Adult male. Greytown, Nicaragua. Collected by Dr. L. F. H. Birt. Catalogued February 2, 1889, as an alcoholic; skull catalogued April 16, 1889. There is no record showing at what time the alcoholic was made into a skin.

Wing membranes considerably torn, but skin otherwise in good condition (see Lyon, Ann. Mag. Nat. Hist., ser. 7th, XVIII, November, 1906, p. 371); skull perfect.

## Genus OTOPTERUS.

**Macrotus californicus** Baird.

See page 290.

## Genus TONATIA.

**Lophostoma venezuelæ** Robinson and Lyon.

Proc. U. S. Nat. Mus., XXIV, No. 1246, p. 154, October 3, 1901.

=**Tonatia venezuelæ** (Robinson and Lyon). See Lyon, Proc. Biol. Soc. Wash., XV, p. 248, December 16, 1902.

102919. In alcohol (skull removed). Adult female. Macuto, 8 miles east of La Guaira, Venezuela. August 4, 1900. Collected by Dr. M. W. Lyon, jr., and Major Wirt Robinson, U. S. A. Original number 199. Catalogued September 24, 1900.

Alcoholic in good condition, except for a small bare patch on back; skull perfect.

## Genus GLOSSOPHAGA.

**Glossophaga elongata** Miller.

Proc. Biol. Soc. Wash., XIII, p. 124, April 6, 1900.

101871. Skin and skull. Adult female. Willemstad, Curaçao, West Indies. December 4, 1899. Collected by Leon J. Guthrie. Catalogued January 31, 1900.

The specimen was originally preserved in formalin, but on February 27, 1900, was made into a study skin, in good condition; skull perfect.

\*



**Glossophaga mutica** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XII, pp. 18-19, January 27, 1898.

89271. Skin and skull. Adult male. Maria Madre Island, Tres Marias Islands, Mexico. May 8, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 10976.

Well-made skin in good condition; skull perfect.

**Glossophaga villosa** H. Allen.

Proc. U. S. Nat. Mus., XVIII No. 1100, p. 779, October 27, 1896. Preoccupied by *Glossophaga villosa* Rengger, Naturgesch. Säugeth. Paraguay, p. 80, 1830. = *Glossophaga truei* H. Allen, Science, new ser., V, p. 153, January 22, 1897.

$\frac{9}{3} \frac{5.2}{7.3} \frac{3}{8.3}$ . Skin in alcohol, and skull. The specimen has no original label, and bears only a small tag numbered 9523, which corresponds in the catalogue to a small bat, "*Vespertilio*," marked in the original catalogue as coming from "Guyana, Venezuela." No other data are given. It was catalogued some time between February 12, and March 17, 1870; skull; April 21, 1898. Dr. H. Allen, in his description of *Glossophaga villosa*, says that the locality is probably La Guayra, Venezuela. This mistake was probably made by his referring to the copied volume of the original catalogue, where the locality is given as "Guyara, Venezuela," which might be taken to mean La Guayra; but in the original catalogue itself the writing is quite plainly "Guyana, Venezuela." Whether the locality in the catalogue is meant to be the eastern end of Venezuela bordering on Guiana or in the old spelling, Guyana, or whether it means that the specimen came from the general region of Venezuela and Guiana, it is impossible to say. A second specimen which Dr. H. Allen had, No. 9524, has no data whatever, and it may or may not have come from the same locality.

Skin in alcohol in good condition, skull with left posterior basal portion and zygoma broken away. The type is designated by number, "9522," an error for 9523.

## Genus MONOPHYLLUS.

**Monophyllus clinedaphus** Miller.

Proc. Wash. Acad. Sci., II, p. 36, March 30, 1900.

$\frac{5.2}{3.7} \frac{1.0}{4.0} \frac{0}{5}$ . In alcohol (skull removed). Adult male. Specimen with no history. Alcoholic catalogued October 30, 1861; skull May 2, 1898.

Alcoholic in good condition; skull with right zygoma missing and right condyloid process of mandible broken.

**Monophyllus cubanus** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 410, September 12, 1902.

113674. Skin and skull. Adult male. Baracoa, eastern Cuba, West Indies. February 6, 1902. Collected by William Palmer. Original number 645. Catalogued April 17, 1902.

Well-made skin in good condition; skull perfect, except slight break in left zygoma.

**Monophyllus luciæ** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 411, September 12, 1902.

106095. In alcohol (skull removed). Adult male. Santa Lucia Island, West Indies. February 4, 1901. Collected by H. Selwyn Branch. Catalogued June 25, 1901.

Alcoholic in good condition; skull perfect.

**Monophyllus plethodon** Miller.

Proc. Wash. Acad. Sci., II, p. 35, March 30, 1900.

101530. In alcohol (skull removed). Adult male. St. Michael's Parish, Barbados, West Indies. August, 1899. Collected by P. McDonough. Catalogued January 2, 1900.

Alcoholic in good condition; skull somewhat injured, both zygomata incomplete, bullæ detached, but present.

**Monophyllus portoricensis** Miller.

Proc. Wash. Acad. Sci., II, p. 34, March 30, 1900.

86261. In alcohol (skull removed). Adult male. Cave near Bayamon, Porto Rico. January 18, 1899. Collected by Paul Beckwith. Catalogued March 16, 1899.

Alcoholic in good condition; skull perfect.

## Genus LEPTONYCTERIS.

**Leptonycteris curasoæ** Miller.

Proc. Biol. Soc. Wash., XIII, p. 126, April 6, 1900.

101851. In alcohol (skull removed). Adult male. Willemstad, Curaçao, West Indies. November to December, 1899. Collected by Leon J. Guthrie. Catalogued January 31, 1900.

Considerable hair has sloughed from alcoholic and viscera are soft; skull perfect.

## Genus HEMIDERMA.

**Carollia castanea** H. Allen.

Proc. Amer. Phil. Soc., XXVIII, p. 19, February 25, 1890.

=*Hemiderma castaneum* (H. Allen). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXX, p. 283, December 27, 1901.

$\frac{1}{3} \frac{2}{5} \frac{1}{3} \frac{1}{4}$ . In alcohol (skull removed). Adult male. Costa Rica. Probably 1876. Collected by José C. Zeledon. Alcoholic catalogued June 23, 1878; skull, November 11, 1893.

Alcoholic in good condition; skull perfect.

**Hemiderma subrufum** Hahn.

Biological Survey collection.

Proc. Biol. Soc. Wash., XVIII, pp. 247-248, December 9, 1905.

75127. Skin and skull. Adult male. Santa Ifigenia, Oaxaca, Mexico. July 29, 1895. Collected by E. W. Nelson and E. A. Goldman. Original number 8235.

Well-made skin in good condition; skull perfect, except for broken zygomata.

**Hemiderma tricolor** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 408, September 12, 1902.

=**Hemiderma perspicillatum** (Linnæus). See Hahn, Proc. U. S. Nat. Mus., XXXII, No. 1514, p. 108, February 9, 1907.

114005. Skin and skull. Adult female. Cave at Sapucay, Paraguay. December 5, 1901. Collected by William T. Foster. Original number 589. Catalogued May 10, 1902.

Well-made skin in good condition; skull perfect.

## Genus BRACHYPHYLLA.

**Brachyphylla nana** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 409, September 12, 1902.

103828. Skull. Adult. Taken from pellets of Cuban Barn Owl, El Guama, Cuba. March 10, 1900. Collected by William Palmer and J. H. Riley. Original number 108. Catalogued October 13, 1900.

No lower jaw present; all the teeth missing except the first molar on each side; posterior right-hand part of brain-case broken away.

## Genus URODERMA.

**Uroderma convexum** Lyon.

Proc. Biol. Soc. Wash., XV, p. 83, April 25, 1902.

111722. In alcohol (skull removed). Young adult female. Colon, Panama. May 28, 1901. Collected by J. W. Humphreys. Catalogued July 30, 1901.

Alcoholic in good condition, but rather shrunken from action of formalin and subsequent drying; skull somewhat damaged about the foramen magnum, especially to the right of it.

## Genus VAMPYROPS.

**Vampyrops fumosus** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 405, September 12, 1902.

105530. Skin and skull. Adult female. Hyutanaham, Purus River, Brazil. March 24, 1901. Collected by Prof. J. B. Steere. Original number 83. Catalogued May 15, 1901.

Well-made skin in good condition; most of the skull posterior to the roots of the zygomata broken away, anterior parts perfect.

## Genus ECTOPHYLLA.

**Ectophylla alba** H. Allen.

Proc. U. S. Nat. Mus., XV, No. 913, p. 442, October 26, 1892.

15950. Skin (without skull) preserved in alcohol. Segovia River, eastern Honduras. July 1, 1887. Collected by C. H. Townsend. Original number 313. Catalogued November 10, 1887.

Specimen in good condition except for some mutilation about the lower lip.

No type designated. Dr. H. Allen had but one specimen, readily seen to be the above from his opening paragraph, where he speaks of its condition, locality, etc. He says, "believed to be from the vicinity of the Segovia River, eastern Honduras." A note from Mr. C. H. Townsend of February 1, 1902, who has referred to No. 313 in his catalogue, writes, "No. 313 (bat) was killed July 1/88 on Segovia R." Evidently a slip of the pen for '87, as the specimen was catalogued November 10, 1887.

## Genus ARTIBEUS.

**Artibeus aztecus** Andersen.<sup>a</sup> Biological Survey collection.

Ann. Mag. Nat. Hist., 7th ser., XVIII, p. 422, December, 1906.

52050. Skin and skull. Adult male. Tetela del Volcan, Morelos, Mexico. February 12, 1893. Collected by E. W. Nelson.

**Artibeus hirsutus** Andersen.<sup>a</sup> Biological Survey collection.

Ann. Mag. Nat. Hist., 7th ser., XVIII, pp. 420-421, December, 1906.

126449. Skin and skull. Adult male. La Salada, Michoacan, Mexico. May 22, 1908. Collected by E. W. Nelson and E. A. Goldman. Original number 16168.

**Dermanura phæotis** Miller. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1902, p. 405, September 12, 1902.

=**Artibeus phæotis** (Miller). See Miller, Bull. U. S. Nat. Mus., No. 57, p. 161, June 29, 1907.

108176. Skin and skull. Adult female. Chichenitza, Yucatan, Mexico. February 10, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14537.

Well-made skin, with epidermis about joints of wings and feet damaged by insects; skull perfect.

**Artibeus jamaicensis præceps** Andersen.<sup>a</sup>

Ann. Mag. Nat. Hist., 7th ser., XVIII, p. 421, December, 1906.

113503. In alcohol. Adult male. Guadeloupe, West Indies. January 22, 1902. Collected by H. Selwyn Branch. Catalogued April 12, 1902.

**Dermanura rava** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 404, September 12, 1902.

=**Artibeus ravus** (Miller). See Miller, Bull. U. S. Nat. Mus., No. 57, p. 162, June 29, 1907.

113338. Skin and skull. Adult male. San Javier, northern Ecuador. August 10, 1900. Collected by G. Flemming. Original number 12. Catalogued March 3, 1902.

Well-made skin in good condition; skull perfect.

<sup>a</sup>See footnote, page VIII.

## Genus ARDOPS.

**Stenoderma luciaë** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 407, September 12, 1902.

=**Ardops luciaë** (Miller). See Miller, Proc. Biol. Soc. Wash., XIX, p. 84, June 4, 1906.

110921. In alcohol (skull removed). Adult female. Santa Lucia Island, West Indies. February 4, 1901. Collected by H. Selwyn Branch. Catalogued June 26, 1901.

Alcoholic in good condition; skull perfect.

## Genus CENTURIO.

**Centurio mcmurtrii** H. Allen.

Proc. Acad. Nat. Sci. Phila., 1861, p. 360, ordered published November 26, 1861.

=**Centurio senex** (Gray). See Rehn, Proc. Acad. Nat. Sci. Phila., 1901, p. 297, June 8, 1901.

$\frac{8.2.8.9}{3.7.8.0.6}$ . In alcohol (skull removed). Adult male. Mirador, Vera Cruz, Mexico. Collected by Dr. C. Sartorius. Catalogued in 1865; skull, November 14, 1899.

Alcoholic in good condition; skull perfect.

Type not designated by number, but see Rehn, *loc. cit.*

## Genus EROPHYLLA.

**Phyllonycteris bombifrons** Miller.

Proc. Biol. Soc. Wash., XIII, p. 36, May 29, 1899.

=**Erophylla bombifrons** (Miller). See Miller, Proc. Biol. Soc. Wash., XIX, p. 84, June 4, 1906.

86274. In alcohol (skull removed). Adult male. In a limestone cave near Bayamon, San Juan Province, Porto Rico, West Indies. January 18, 1899. Collected by Paul Beckwith. Catalogued March 16, 1899.

Alcoholic in good condition; skull perfect.

**Phyllonycteris planifrons** Miller.

Proc. Biol. Soc. Wash., XIII, p. 34, May 29, 1899.

=**Erophylla planifrons** (Miller). See Miller, Proc. Biol. Soc. Wash., XIX, p. 84, June 4, 1906.

62517. In alcohol (skull removed). Adult male. Nassau, New Providence, Bahama Islands. March 18, 1886. Collected by Dr. James E. Benedict. Catalogued July 13, 1895.

Alcoholic in good condition; skull perfect.

## Family NATALIDÆ.

## Genus NATALUS.

**Natalus major** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 398, September 12, 1902.

101395. In alcohol (skull removed). Adult male. Savaneta, Santo Domingo, West Indies. Collected by Prof. W. M. Gabb. Catalogued November 3, 1899. Received in exchange from Academy of Natural Sciences of Philadelphia.

Alcoholic in good condition; skull perfect.

**Natalus mexicanus** Miller.

Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1902, pp. 399-400, September 12, 1902.

96496. In alcohol (skull removed). Adult female. Santa Anita, Lower California, Mexico. July or August, 1897. Collected by J. F. Abbott. Original number 1953x.

Specimen in good condition; skull perfect, except for slightly fractured braincase.

## Genus PHODOTES.

**Natalus tumidirostris** Miller.

Proc. Biol. Soc. Wash., XIII, p. 160, October 31, 1900.

=*Phodotes tumidirostris* (Miller). See Miller, Proc. Biol. Soc. Wash., XIX, p. 85, June 4, 1906.

102106. In alcohol (skull removed). Adult male. In a cave at Hatto, north side of Curaçao, West Indies. May 1, 1900. Collected by Leon J. Guthrie. Catalogued May 22, 1900.

Alcoholic in good condition; skull perfect, except right tympanic bone missing.

## Genus CHILONATALUS.

**Natalus (Chilonatalus) brevimanus** Miller.

Proc. Acad. Nat. Sci. Phila., 1898, p. 328, July 12, 1898.

=*Chilonatalus brevimanus* (Miller). See Miller, Proc. Biol. Soc. Wash., XVI, p. 119, September 30, 1903.

15835. In alcohol (skull not removed). Adult male. Old Providence Island, Caribbean Sea. Collected by C. B. Cory. Catalogued May 25, 1887.

Specimen in good condition; skull not taken out.

**Chilonatalus tumidifrons** Miller.

Proc. Biol. Soc. Wash., XVI, p. 119, September 30, 1903.

122024. In alcohol (skull removed). Adult male. Watling Island, Bahama Islands. July 12, 1903. Collected by J. H. Riley. Original number 157. Catalogued August 19, 1903.

Alcoholic in good condition; skull perfect.

## Family VESPERTILIONIDÆ.

## Genus MYOTIS.

**Vespertilio affinis** H. Allen.

Monograph Bats of North America, Smithsonian Miscell. Coll., No. 165, p. 53, June, 1864.

=**Myotis lucifugus** (Le Conte). See Miller, North Amer. Fauna, No. 13, p. 20, October 16, 1897.

5342. In alcohol (skull removed and lost). Adult female. Fort Smith, Arkansas. Collected by Dr. G. G. Shumard. Catalogued October 30, 1861.

Specimen in fair condition; all the hair of belly and lower back has slipped off; skull lost.

Species based on one specimen, the above, designated by number.

**Myotis lucifugus alascensis** Miller. Biological Survey collection.

North Amer. Fauna, No. 13, pp. 63-64, fig. 13*d*, October 16, 1897.

77416. In alcohol (skull not removed). Adult female. Sitka, Alaska. August 5, 1895. Collected by C. P. Streater. Original number 4754.

Specimen in good condition; skull not removed.

**Myotis carimatæ** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1481, p. 62, July 23, 1906.

125154. In alcohol (skull removed). Adult female. Telok Edar, Karimata Island, off west coast of Borneo, August 28, 1904. Collected by Dr. W. L. Abbott. Original number 3673. Catalogued December 9, 1904.

Alcoholic in good condition; skull perfect.

**Myotis californicus caurinus** Miller. Biological survey collection.

North Amer. Fauna, No. 13, p. 72, October 16, 1897.

72219. In alcohol (skull not removed). Adult male. Massett, Graham Island, Queen Charlotte Islands, British Columbia. 1895. Collected by Rev. J. H. Keen.

Specimen in good condition, except for slight injury to abdomen; skull not removed.

**Myotis dominicensis** Miller.

Proc. Biol. Soc. Wash., XV, p. 243, December 16, 1902.

113564. In alcohol (skull removed). Adult male. Dominica, West Indies. July 20, 1901. Collected by H. Selwyn Branch. Catalogued April 12, 1902.

Alcoholic in good condition; skull perfect.

**Vespertilio subulatus keenii** Merriam. Biological Survey collection.

Amer. Nat., XXIX, pp. 860-861, September 1, 1895.

=**Myotis subulatus keenii** (Merriam). See Miller, North Amer. Fauna, No. 13, p. 77, October 16, 1897.

72922. In alcohol (skull not removed). Adult female. Massett, Graham Island, Queen Charlotte Islands, British Columbia. Summer, 1894. Collected by Rev. J. H. Keen.

Specimen in good condition; skull not removed.

**Myotis longicrus** True.

Science, VIII, p. 588, December 24, 1886.

=**Myotis lucifugus longicrus** (True). See Miller, North Amer. Fauna, No. 13, p. 64, October 16, 1897.

$\frac{1}{2} \frac{5 \frac{6}{2} \frac{2}{3}}{4 \frac{3}{4}}$ . In alcohol (skull removed). Young adult female. Region of Puget Sound. Collected by Dr. D. S. Jordan. Catalogued December 16, 1886.

The hair has slipped off from the lower dorsal and ventral regions and the skin has been incised along the midventral line to permit removal of skull; skull perfect.

Type not designated by number. The description implies but a single specimen, unquestionably the above. The word "Type" is written in the "remarks" column of the catalogue.

**Vespertilio macropus** H. Allen.

Proc. Acad. Nat. Sci. Phila., 1866, p. 288, ordered published August 28, 1866.

=**Myotis yumanensis** (H. Allen). See Miller, North Amer. Fauna, No. 13, pp. 66 and 67, October 16, 1897.

84549. Skin without skull. Adult male. Colorado River, near Fort Mohave, Arizona. November 1, 1866. Collected by Dr. Elliott Coues. Catalogued April 21, 1898.

Specimen a flat skin with expanded wings and much of the membrane between the fingers broken out.

The specimen bears the following label: Private collection. Expl. in Rocky Mts. Dr. Elliott Coues U. S. A. [in print] *V. macropus*. Nov. TYPE [in what seems to be Dr. H. Allen's handwriting]. Near Fort Mojave, Colorado R., Nov. 1, 1866 [in what seems to be Doctor Coues's handwriting]." *Mojave* is so written that it resembles *Majaor* as given in the original description. The above label agrees in every respect with the data given by Dr. H. Allen in the original description of the single specimen that he had. It was found in the Museum collection unnumbered, and was catalogued as No. 84549, April 21, 1898.

**Vespertilio melanorhinus** Merriam. Biological Survey collection.

North Amer. Fauna, No. 3, pp. 46-47, September 4, 1890.

=**Myotis californicus** (Audubon and Bachman). See Miller, North Amer. Fauna, No. 13, p. 69, October 16, 1897.

18684. In alcohol (skull not removed). Adult male. San Francisco Mountain, Arizona. August 4, 1889. Collected by Dr. C. H. Merriam and V. Bailey. Original number 275.

Specimen in good condition; skull not removed.



**Myotis nesopolus** Miller.

Proc. Biol. Soc. Wash., XIII, p. 123, April 6, 1900.

101849. Skin and skull. Adult male. Punda, Curaçao, West Indies. November 4, 1899. Collected by Leon J. Guthrie. Catalogued January 31, 1900.

Specimen originally preserved entire in formalin, but made into a dry skin on February 8, 1900.

Well-made skin, in good condition; skull perfect.

**Vespertilio nitidus** H. Allen.

Proc. Acad. Nat. Sci. Phila., 1862, p. 247, ordered published April 29, 1862.

=**Myotis californicus** (Audubon and Bachman). See Miller, North Amer. Fauna, No. 13, p. 69, October 16, 1897.

$\frac{5.23}{1.666}$ . Skin and skull. Adult. Fort Steilacoom, Puget Sound, Washington. Collected by Dr. George Suckley, "N. Pacific R. R. Survey, Gov. I. I. Stevens." First catalogued February 26, 1855; again catalogued October 31, 1861, as No. 5447.

The specimen is a skin almost falling to pieces, made up with wings expanded. Skull has lost right tympanic bone, most of right zygoma, and left half of mandible. Parts of occipital about foramen magnum have been broken away.

No type designated. A table of measurements accompanies the original description and five specimens are mentioned. Measurements of these five specimens are given in Allen's Monograph of Bats of North America, p. 61, 1865. There it is readily seen that the measurements given in the original description are not those of the average of the original five specimens, nor do they agree with those of any particular one, but they more nearly represent the measurements of No. 523 than they do any of the others. For that reason No. 523 is here regarded as the type. It may be contended, however, that 1981 being the first mentioned in the original description should be taken as the type; but No. 1981 apparently was an alcoholic and the original description is evidently based upon a skin and skull. Moreover, the greater number of the specimens, four, came from Fort Steilacoom, and these should be taken to represent the species better. Of the original five specimens, the type, No. 523, No. 522, a skin, and skulls,  $\frac{1.657}{1.224}$  and  $\frac{1.658}{1.223}$ , seem to be the only ones extant.

**Vespertilio obscurus** H. Allen.

Proc. Acad. Nat. Sci. Phila., 1866, p. 281, ordered published August 26, 1866.

=**Myotis californicus** (Audubon and Bachman). See Miller, North Amer. Fauna, No. 13, p. 69, October 16, 1897.

8223. In alcohol (skull not removed). Adult male. Lower California, Mexico. Collected by John Xantus. Catalogued in 1865.

Left wing lacking entirely and only the bones of the right wing remaining. The rest of the specimen is in good condition.

**Vespertilio oregonensis** H. Allen. Cotypes.

Monograph Bats North America, Smithsonian Miscell. Coll., No. 165, p. 61, June, 1864.

=**Myotis californicus** (Audubon and Bachman). See Miller, North Amer. Fauna, No. 13, p. 69, October 16, 1897.

Four cotypes. See Miller, *loc cit.*, p. 33.

5402. Catalogued earlier as No. 4977. In alcohol. Male. Cape St. Lucas, Lower California, Mexico. Collected by John Xantus. Original number 3895. Catalogued May 31 and later October, 1861. Can not be found.

5405. In alcohol. Female. Fort Yuma, California. Collected by Maj. G. H. Thomas, U. S. A. Catalogued October 31, 1861. Specimen can not be found.

5537. In alcohol. Male. Fort Yuma, California. Collected by Maj. G. H. Thomas U. S. A. Catalogued February 6, 1862. Specimen can not be found.

$\frac{5.5}{3} \frac{1.2}{3} \frac{8}{3} \frac{5}{5}$ . Catalogued earlier as No. 4740. Labeled "*Vespertilio oregonensis* U. States Major Le Conte." Catalogued April 13, and November 1, 1861; skull, March 2, 1898.

A mummified skin with wings spread out, in rather poor condition. Skull with zygomata broken and injured about foramen magnum and left otic region.

**Myotis californicus pallidus** Stephens. Biol. Surv. Coll. See p. 291.

**Myotis yumanensis saturatus** Miller. Biological Survey collection. North Amer. Fauna, No. 13, pp. 68-69, October 16, 1897.

$\frac{11.3}{2} \frac{3.9}{4} \frac{8}{8} \frac{8}{8}$ . Skin and skull. Adult male. Hamilton, Washington. September 13, 1889. Collected by Dr. T. S. Palmer. Original number 392.

Well-made skin in good condition; skull perfect.

**Vespertilio tenuidorsalis** H. Allen. See p. 291.

**Myotis thysanodes** Miller. Biological Survey collection. North Amer. Fauna, No. 13, pp. 80-85, pl. I, fig. 5; pl. II, fig. 5; figs. 11b, 12b, 15d, 16-17 in text, October 16, 1897.

29827. In alcohol (skull not removed). Adult female. Fort Tejon, California. July 5, 1891. Collected by Dr. T. S. Palmer. Original number 235.

Specimen in good condition; skull not removed.

**Vespertilio volans** H. Allen.

Proc. Acad. Nat. Sci. Phila., 1866, p. 282, ordered published August 28, 1866. = **Myotis californicus** (Audubon and Bachman). See Miller, North Amer. Fauna, No. 13, p. 69, October 16, 1897.

$\frac{5.3}{3} \frac{9.8}{7} \frac{8}{3} \frac{8}{2}$ . In alcohol (lost), and skull. Cape St. Lucas, Lower California, Mexico. Collected by John Xantus. Catalogued October 31, 1861; skull, March 1, 1898.

The alcoholic specimen can not be found; skull perfect.

Dr. H. Allen had but one specimen, designated by number.

**Vespertilio yumanensis** H. Allen. Cotypes. See page 291.

## Genus PIPISTRELLUS.

**Pipistrellus hesperus australis** Miller. Biological Survey coll.

North Amer. Fauna, No. 13, p. 90, October 16, 1897.

52112. In alcohol (skull not removed). Adult female. Barranca Ibarra, Jalisco, Mexico. May 14, 1892. Collected by E. W. Nelson. Original number 2614.

Specimen in fair condition; viscera protruding and somewhat mutilated; right humerus broken; skull not removed.

**Pipistrellus camortæ** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 779, May 28, 1902.

111897. In alcohol (skull removed). Adult male. Kamorta, Nicobar Islands. February 12, 1901. Collected by Dr. W. L. Abbott. Catalogued August 17, 1901.

Alcoholic in good condition; skull slightly injured just above the foramen magnum.

**Pipistrellus cinnamomeus** Miller. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1902, pp. 390-392, September 12, 1902.

100231. Skin and skull. Adult female. Montecristo, Tabasco, Mexico. May 4, 1900. Collected by E. W. Nelson and E. A. Goldman. Original number 14136.

Well-made skin in good condition; skull perfect.

**Scotophilus hesperus** H. Allen.

Monograph North American Bats, Smithsonian Miscell. Coll., No. 165, p. 43, June, 1864.

=*Pipistrellus hesperus* (H. Allen). See Miller, North Amer. Fauna, No. 13, p. 88, October 16, 1897.

$\frac{54.06}{374.06}$ . In alcohol (skull removed). Adult male. Old Fort Yuma, San Diego County, California. 1855. Collected by Maj. G. H. Thomas, U. S. A. Catalogued October 31, 1861; skull, May 3, 1898.

Hair on lower back and belly sloughed off; otherwise alcoholic in good condition; skull with central part of each zygoma broken out, right orbital region and right side of rostrum injured.

This specimen may be considered as the type because it is the first one mentioned in the list of three individuals that Dr. H. Allen gives, and the only alcoholic among them. Miller [North Amer. Fauna, No. 13, p. 88] has definitely chosen the above specimen as the type. Again, Miller and Rehn [Proc. Bost. Soc. Nat. Hist., XXX, p. 259] regard Old Fort Yuma, California, as the type-locality. The other two of the original three specimens Nos. 5509 and 5910, came from Poso Creek, Kern County, California, and are dry skins.

**Pipistrellus minusculus** Miller.

Proc. Wash. Acad. Sci., II, p. 647, fig. 43, December 28, 1900.

84500. In alcohol (skull removed). Adult female. Mount Coffee, Liberia, West Africa. May, 1894. Collected by O. F. Cook. Catalogued April 11, 1898.

Alcoholic in good condition except for an area of sloughed hair on back; skull perfect.

**Pipistrellus subflavus obscurus** Miller. Biological Survey coll.

North Amer. Fauna, No. 13, p. 93, October 16, 1897.

67723. Skin and skull. Adult female. Lake George, Warren County, New York. September 6, 1894. Collected by Dr. W. K. Fisher. Original number 198.

Well made skin in good condition; skull perfect, except for absence of posterior portion of left mandibular ramus.

**Pipistrellus subulidens** Miller.

Proc. Wash. Acad. Sci., III, p. 134, March 26, 1901.

104758. In alcohol (skull removed). Adult female. Sirhassen Island, Natuna Islands. June 3, 1900. Collected by Dr. W. L. Abbott. Catalogued December 18, 1900.

Alcoholic in good condition; skull perfect.

## Genus EPTESICUS.

**Vespertilio fuscus bahamensis** Miller. Biological Survey coll.

North Amer. Fauna, No. 13, pp. 101-102, figs. 24a, 25a, 26b, October 16, 1897.

=**Eptesicus fuscus bahamensis** (Miller). See Miller and Rehn, Proc. Bost. Soc. Nat. Hist., XXX, p. 260, December, 1901.

76537. In alcohol (skull not removed). Adult male. Nassau, New Providence, Bahama Islands. Spring, 1894. Collected by C. J. Maynard.

Specimen in good condition; skull not removed.

**Scotophilus miradorensis** H. Allen. See page 291.

## Genus NYCTICEIUS.

**Nycticea crepuscularis** Le Conte. Cotypes.

M'Murtrie's Cuvier, Animal Kingdom, I, p. 432, 1831.

=**Nycticeius humeralis** (Rafinesque). See Miller, North Amer. Fauna, No. 13, p. 24, October 16, 1897.

4735 and 4736. Skins with skulls inside. "U. States, Maj. Le Conte." Catalogued April 13, 1861.

Specimens in poor condition.

These specimens are regarded as cotypes, more from tradition than anything else. There is nothing in the early description to show that they are cotypes. They were presented to the Museum years ago by Major Le Conte as typical, or perhaps as original specimens. The specimens bear two old labels each, one marked "*Crepuscularis*," the other "*Vespertilio 'crepuscularis'*," each in different handwriting. The latter is probably Secretary Baird's handwriting and seems to be identical with that of the entry in the catalogue.

## Genus RHOGĒSSA.

**Rhogeëssa gracilis** Miller. Biological Survey collection.

North Amer. Fauna, No. 13, pp. 126-128, pl. I, figs. 7, 12; text fig. 40b, October 16, 1897.

70694. In alcohol. Adult male. Piaxtla, Puebla, Mexico. November 24, 1894. Collected by E. W. Nelson and E. A. Goldman. Original number 7099.

Specimen in fair condition; right humerus and ulna broken; skull attached to body, but separated from skin.

**Rhogeëssa minutilla** Miller.

Proc. Biol. Soc. Wash., XI, p. 139, May 13, 1897.

63216. Skin with skull. Adult male. Margarita Island, Venezuela. July 8, 1895. Collected by Maj. Wirt Robinson, U. S. A. Original number 463. Catalogued March 25, 1896.

Skin in good condition. Skull with zygomata broken away; audital bullæ missing and posterior basal portion injured.

**Rhogeëssa parvula** H. Allen. See page 292.**Rhogeëssa tumida** H. Allen.

Proc. Acad. Nat. Sci. Phila., 1866, p. 286, ordered published August 28, 1866.

84021. Skull. Adult male. Mirador, Vera Cruz, Mexico. Collected by Col. A. J. Grayson, U. S. A. Catalogued March 1, 1898.

The skin is said to be in alcohol, but can not be found; skull complete except for the loss of both malar bones.

The specimen is accompanied by these two notes signed G. S. M. [iller], jr.

"In the orig. descr. the number of this sp. is said to be 8195. This is an error. [This number in the Museum catalogues does not refer to a bat; it may be an original number.] Specimen recatalogued 3.1.98."

"There is no doubt that this is the type skull. It was returned by H. A. [llen] with no. given in orig. descr."

## Genus LASIURUS.

**Atalapha semota** H. Allen.

Proc. U. S. Nat. Mus., XIII, No. 807, p. 173, September 9, 1890.

=*Lasiurus semota* (H. Allen). See Miller, Bull. U. S. Nat. Mus., No. 57, p. 222, June 29, 1907.

15631. In alcohol (skull not removed). Adult female. Hawaiian Islands. Collected by Valdemar Knudsen. Catalogued January 4, 1887.

Specimen in good condition.

No type designated. The above specimen is selected as the type, because a great part of the description is based upon it. A table of measurements is given of it; it heads the list of nine specimens, is the first specimen mentioned by Dr. H. Allen, and it is the only one that he considers a "perfect adult specimen."

**Atalapha teliotis** H. Allen.

Proc. Amer. Philos. Soc., XXIX, p. 5, April 10, 1891.

=*Lasiurus borealis teliotis* (H. Allen). See Miller, North Amer. Fauna, No. 13, p. 110, October 16, 1897.

84555. In alcohol (skull removed and lost). Probably from the southern part of California. Sent to Dr. H. Allen by Dr. J. G. Cooper, of the California Academy of Sciences. It was not catalogued until April 27, 1898.

As Dr. H. Allen remarks in the original description, the specimen is in poor condition. The skin of the head has been split open in order to take out the skull; most of the hair has sloughed from the back.

No type designated. It was unique at the time of the description. The above has always been regarded as the specimen that Dr. H. Allen had and answers to his description in so far as condition is concerned. It bears an original label marked "*Atalapha teliotis*, Cal. Acad. U. S."

Genus DASYPTERUS.

**Dasypterus floridanus** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 392, issued September 12, 1902.

111379. Skin and skull. Adult female. Lake Kissimmee, Florida. March 28, 1901. Collected by Dr. E. A. Mearns, U. S. A. Original number 5183. Catalogued June 28, 1901.

Well-made skin in good condition; skull perfect.

**Lasiurus intermedius** H. Allen. See page 292.

Genus CORYNORHINUS.

**Corynorhinus macrotis pallescens** Miller. Biological Survey coll.

North Amer. Fauna, No. 13, pp. 52-53, pl. III, fig. 2; fig. 10 in text, October 16, 1897.

66534 (not 65534, as in original description). Skin and skull. Adult female. Keam Canyon, Navajo County, Arizona. August 3, 1894. Collected by Dr. A. K. Fisher. Original number 1715.

Well-made skin in good condition. Skull in four fragments, the largest including part of the frontals and the right parietal, two fragments of maxillaries bearing three and five teeth, respectively, left mandibular ramus intact.

Genus KERIVOULA.

**Kerivoula depressa** Miller.

Proc. Biol. Soc. Wash., XIX, p. 64, May 1, 1906.

$\frac{1885}{38194}$ . In alcohol (skull removed). Adult female. Biapo, Carin Hills, northeast Tounghoo, southern Burma. Collected by L. Fea. Original number 29. Catalogued May 2, 1890; skull, February 4, 1904.

Alcoholic, in good condition; skull perfect.

**Kerivoula engana** Miller.

Proc. U. S. Nat. Mus., XXX, No. 1472, p. 825, June 4, 1906.

141020. In alcohol (skull removed). Adult male. Pulo Dua, Engano Island, west coast of Sumatra. November 3, 1904. Collected by Dr. W. L. Abbott. Original number 3766. Catalogued July 19, 1905.

Alcoholic, in good condition; skull perfect.

**Kerivoula minuta** Miller.

Proc. Acad. Nat. Sci. Phila., 1898, p. 321, July 12, 1898.

83547. In alcohol (skull removed). Adult male. Trong (or Tarang), lower Siam. September, 1896. Collected by Dr. W. L. Abbott. Catalogued April 28, 1897.

Alcoholic, in good condition; skull perfect.

## Genus PHONISCUS.

**Phoniscus atrox** Miller.

Proc. Biol. Soc. Wash., XVIII, December 9, 1905, p. 230.

123141. In alcohol (skull removed). Adult female. Vicinity of the Kateman River, eastern Sumatra. September 9, 1903. Collected by Dr. W. L. Abbott. Original number 2781. Catalogued January 24, 1904.

Alcoholic, in good condition; skull perfect.

## Genus ANTROZOUS.

**Antrozous minor** Miller.

Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1902, pp. 389-390, September 12, 1902.

79096. Skin and skull. Comondu, Lower California, Mexico. September 20, 1895. Collected by J. E. McLellan.

Well-made skin in good condition, except for slight mutilation of border of interfemoral membrane. Skull lacks entire basal portion of brain-case, otherwise perfect.

**Antrozous pallidus pacificus** Merriam.

Biological Survey coll.

Proc. Biol. Soc. Wash., XI, p. 180, July 1, 1897.

29815. In alcohol (skull not removed). Adult female. Fort Tejon, California. June 28, 1891. Collected by Dr. C. Hart Merriam. Original number 208.

Specimen in fair condition; hairs on back slipping; skull not removed.

**Vespertilio pallidus** Le Conte.

Proc. Acad. Nat. Sci. Phila., VII, p. 437, this paper was reported favorably for publication December 25, 1855.

=**Antrozous pallidus** (Le Conte). See H. Allen, Monograph Bats of North America, Smithsonian Miscell. Coll., No. 165, p. 68, June, 1864.

152 and 5467. Skin without skull. El Paso, Texas, 1851. Collected by J. H. Clark during the U. S. and Mexican Boundary Survey.

The specimen is entered in the Museum catalogue twice: First on May 19, 1853, as No. 152, and having skull No. 1134, which is now lost. This entry was made as a deposit, "Dep." Second as No. 5457, with original number marked 152 and no skull number indicated; column for date marked "8-11.34 (?)."

Specimen in good condition, recently made into a modern study skin.

Dr. Harrison Allen, *loc. cit.*, p. 69, in second table, regarded this specimen as the type. Baird, U. S. and Mexican Boundary Survey, Report, II, 1859, p. 5, writes "the one described by Major Le Conte was taken at El Paso."

### Family MOLOSSIDÆ.

#### Genus NYCTINOMUS.

##### *Nyctinomus antillarum* Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 398, September 12, 1902.

113188. In alcohol (skull removed). Adult male. Roseau, Dominica, West Indies. August 5, 1901. Collected by H. Selwyn Branch. Catalogued February 6, 1902.

Alcoholic in good condition; skull perfect.

##### *Dysopes aurispinosus* Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 21, 1848.

=*Nyctinomus macrotis* (Gray). See Dobson, Catalogue Chiroptera British Museum, p. 435, 1878.

3726. Skin preserved in alcohol. Adult male. Peale says: "This remarkable bat flew on board the U. S. ship *Peacock*, off the coast of Brazil, on the 18th of November, when the ship was about one hundred miles from land, south of Cape St. Roque." This specimen is undoubtedly No. 3726, catalogued December 20, 1859, as *Molossus aurispinosus* from Brazil. It was recatalogued as No. 5476, October 31, 1861. There is no record of a skull in either of the entries.

The specimen was a dry skin until September 27, 1899, when it was placed in alcohol by Mr. Gerrit S. Miller, jr., who made a note of the color at that time, viz, "belly wood brown, back between wood brown and russet. 9, 27, '99." It is in good condition.

Type not designated by number, but there is not the slightest doubt that this is the specimen mentioned by Peale.

##### *Nycticea cynocephala* Le Conte.

McMurtrie's Cuvier, Animal Kingdom, I, p. 432, 1831.

=*Nyctinomus cynocephalus* (Le Conte). See Miller, Proc. Bost. Soc. Nat. Hist., XXVIII, p. 218, March, 1898.

4742. Skin with skull inside. Collected by Major J. E. Le Conte, probably on the Le Conte plantation, near Riceboro, Georgia. Catalogued April 13, 1861.

Skin in good condition, but with wings spread out.

No type designated. The above seems to be an original specimen, and has "*Cynocephalus*" written on two old labels, and is so entered in the catalogue.



**Nyctinomus jobensis** Miller.

Proc. Biol. Soc. Wash., XV., p. 246, December 16, 1902.

$\frac{1}{3} \frac{5}{8} \frac{5}{8} \frac{5}{8}$ . In alcohol (skull removed). Female. Ansum, Island of Jobie, northwestern New Guinea. Collected by Dr. D. Beccari. Original number 33. Catalogued May 2, 1890; skull, October 15, 1902.

Alcoholic in good condition; skull perfect.

**Nyctinomus macrotis nevadensis** H. Allen.

Monograph Bats of North America, Bull. U. S. Nat. Mus., No. 43, p. 171, March 14, 1894.

=**Nyctinomus depressus** (Ward). See Miller, Proc. Biol. Soc. Wash., XV., p. 250, December 16, 1902; and Bull. U. S. Nat. Mus., No. 57, p. 253, June 29, 1907.

$\frac{1}{3} \frac{5}{8} \frac{1}{8} \frac{8}{8}$ . In alcohol (skull removed). Immature female. California (exact locality not known). Collected by John Mullan. Alcoholic catalogued August 31, 1885; skull, November 22, 1893.

Alcoholic in fair condition, rather shrunken and skull badly extracted from top of head; skull is in good condition, right tympanic bone lost, and right half of mandible in two pieces.

For regarding the above as type see J. A. Allen, Bull. Amer. Mus. Nat. Hist., VI, December 16, 1902, footnote, p. 326.

**Nyctinomus orthotis** H. Allen.

Proc. Amer. Phil. Soc., XXVI, p. 561, December 18, 1889.

$\frac{2}{3} \frac{3}{7} \frac{9}{4} \frac{7}{7}$ . Skin (preserved in alcohol) and skull. Spanishtown, Jamaica, West Indies. Collected by W. T. March. Probably August, 1868. Skin catalogued May 4, 1869; skull, August 17, 1898.

Skin in good condition; a good deal of the posterior parts of the skull broken away.

**Nyctinomus pusillus** Miller.

Proc. Biol. Soc. Wash., XV, p. 245, December 16, 1902.

$\frac{2}{3} \frac{9}{7} \frac{9}{8} \frac{1}{2}$ . In alcohol (skull removed). Adult female. Aldabra Island, Indian Ocean. Collected by Dr. W. L. Abbott. Alcoholic catalogued June 30, 1893; skull, February 12, 1900.

Alcoholic in good condition; left half of posterior part of brain-case of skull broken away.

Type designated by No.  $\frac{3}{6} \frac{8}{8} \frac{5}{8}$ , an error for  $\frac{3}{6} \frac{9}{8} \frac{1}{2}$ .

**Nyctinomops yucatanicus** Miller. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1902, pp. 393-395, September 12, 1902.

=**Nyctinomus yucatanicus** (Miller).

108166. Skin and skull. Adult female. Chichenitza, Yucatan, Mexico. February 9, 1901. Collected by E. W. Nelson and E. A. Goldman. Original number 14521.

Well made skin in good condition; skull perfect.

## Genus MOLOSSUS.

**Molossus nigricans** Miller. Biological Survey collection.

Proc. Acad. Nat. Sci. Phila., 1902, pp. 395-396, September 12, 1902.

90941. Skin and skull. Adult male. Acaponeta, Tepic, Mexico. August 2, 1897. Collected by E. W. Nelson and E. A. Goldman. Original number 11433.

Well made skin in good condition; skull perfect, except for absence of right angular process of mandible.

**Molossus pretiosus** Miller.

Proc. Acad. Nat. Sci. Phila., 1902, p. 396, September 12, 1902.

102761. Skin and skull. Adult male. La Guaira, Venezuela. July 13, 1900. Collected by Maj. Wirt Robinson, U. S. A., and Dr. M. W. Lyon, jr. Original number 106. Catalogued September 20, 1900.

Well-made skin in good condition; skull perfect.

**Molossus pygmæus** Miller.

Proc. Biol. Soc. Wash., XIII, p. 162, October 31, 1900.

102104. In alcohol (skull removed). Adult female. In an attic of a house near Willemstad, Curaçao, West Indies. January 16, 1900. Collected by Leon J. Guthrie. Catalogued May 22, 1900.

Alcoholic in good condition; skull perfect.

## Order PRIMATES.

## Family LEMURIDÆ.

## Genus NYCTICEBUS.

**Nycticebus bancanus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1494, p. 536, November 9, 1906.

124907. Skin and skull. Adult female. Klabat Bay, island of Banka, east of Sumatra. June 24, 1904. Collected by Dr. W. L. Abbott. Original number 3432. Catalogued December 5, 1904.

Well-made skin in good condition; skull perfect.

**Nycticebus borneanus** Lyon.

Proc. U. S. Nat. Mus., XXXI, No. 1494, p. 535, pl. XIII, fig. 4, November 9, 1906.

142234. Skin and skull. Adult male. Along the Sakaïam River, a tributary of the Kapuas River, Sanggau district, western Borneo. August 15, 1905. Collected by Dr. W. L. Abbott. Original number 4322. Catalogued January 20, 1906.

Well-made skin in good condition; skull perfect, except small upper right incisor broken off at alveolus.

**Nycticebus coucang natunæ** Stone and Rehn.

Proc. Acad. Nat. Sci. Phila., 1902, p. 140, June 4, 1902.

=*Nycticebus natunæ* (Stone and Rehn). See Lyon, Proc. U. S. Nat. Mus., XXXI, No. 1494, p. 534, November 9, 1906.

104599. Skin and skull. Adult male. Bunguran, Natuna Islands. July 28, 1900. Collected by Dr. W. L. Abbott. Original number 602. Catalogued December 15, 1900.

Well-made skin in good condition; skull perfect.

## Family CALLITRICHIDÆ.

## Genus LEONTOCEBUS.

**Midas elegantulus** Slack.

Proc. Acad. Nat. Sci. Phila., 1861, p. 463, ordered printed December 31, 1861.

=*Leontocebus rufiventer* (Gray).

$\frac{5132}{37870}$ . Skin and skull. Adult male. Amazon River. Collected by Lieut. W. L. Herndon, U. S. N. Skin catalogued between November 18, 1861, and February, 1862; skull, March 12, 1900.

Skin with tip of tail missing and skull with greater portion of the occipital bone broken away; specimen otherwise complete and in good condition.

Type not designated by number. The above is the only specimen in the collection with the data of "the typical specimen."

## Family CEBIDÆ.

## Genus ALOUATTA.

**Alouatta palliata mexicana** Merriam. Biological Survey collection.

Proc. Biol. Soc. Wash., XV, p. 67, March 22, 1902.

79398. Skin and skull. Adult male. Minatitlan, Vera Cruz, Mexico. April 23, 1896. Collected by E. W. Nelson and E. A. Goldman. Original number 9551.

Well-made skin in good condition; skull perfect, except for slight injury to angle of right mandibular ramus.

## Family CERCOPITHECIDÆ.

## Genus MACACA.

**Macaca adusta** Miller.

Proc. U. S. Nat. Mus., XXXIX, No. 1436, p. 559, pls. XIII, fig. 2; XIV, fig. 2; XV, fig. 2; XVI, fig. 2; February 3, 1906.

124023. Skin and skull. Adult male. Champang, Tenasserim. December 22, 1903. Collected by Dr. W. L. Abbott. Original number 2929. Catalogued July 26, 1904.

Well-made skin in good condition; skull perfect.

**Cynomolgus mindanensis apoensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 429, May 13, 1905.

=*Macaca mindanensis apoensis* (Mearns).

125321. Skin and skull. Adult female. Mount Apo (altitude of 6,000 feet), southern Mindanao, Philippine Islands. June 25, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5670. Catalogued December 14, 1904.

Well-made skin in good condition; skull perfect.

**Macaca broca** Miller.

Proc. U. S. Nat. Mus., XXIX, No. 1436, p. 558, February 3, 1906.

$\frac{1492}{34} \frac{111}{33}$ . Skin and skull. Adult male. Along the Sapagaya River, northeastern Borneo. November 21, 1887. Collected by C. F. Adams. Skin catalogued December 2, 1890; skull, December 5, 1890.

Well-made skin in good condition; skull perfect.

**Cynomolgus cagayanus** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 431, May 13, 1905.

=*Macaca cagayana* (Mearns).

125325. Skin and skull. Adult male. Cagayan Sulu Island, Sulu Sea (near Borneo). February 25, 1904. Collected by Dr. E. A. Mearns, U. S. A. Original number 5771. Catalogued December 14, 1902.

Well-made skin in fair condition; several bare spots on arms and legs and on belly; originally preserved for some months in alcohol, but now a dry skin. (See under heading "Color" in the original description.) Skull perfect except loss of right  $e_1$ ,  $i_2$ , and left  $z$ .

**Macacus fuscus** Miller.

Proc. U. S. Nat. Mus., XXVI, No. 1317, p. 476, February 3, 1903.

114164. Skin and skull. Old male. Simalur Island, northwestern Sumatra. November 20, 1901. Collected by Dr. W. L. Abbott. Original number 1348. Catalogued August 26, 1902.

Well-made skin in good condition; skull perfect.

**Macaca insulana** Miller.

Proc. U. S. Nat. Mus., XXIX, No. 1436, p. 560, February 3, 1906.

104441. Skin and skull. Adult male. Chance Island, Mergui Archipelago. January 1, 1900. Collected by Dr. W. L. Abbott. Original number 199. Catalogued November 6, 1900.

Well-made skin in good condition; skull perfect.

**Cynomolgus mindanensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 428, May 13, 1905.

=*Macaca mindanensis* (Mearns).

123450. Skin and skull. Adult male. Pantar (altitude 1,900 feet), Mindanao, Philippine Islands. August 26, 1903. Collected by Dr. E. A. Mearns, U. S. A. Original number 5620. Catalogued April 5, 1904.

Well-made skin in fair condition; bare spots on forehead and arms; skull perfect except loss of right  $c'$ ,  $c_1$ , left  $pm_2$ , and  $m_3$ .

**Macacus pagensis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 61, November 6, 1903.

121653. Skin and skull. Adult female. South Pagi Island, off west coast of Sumatra. November 17, 1902. Collected by Dr. W. L. Abbott. Original number 2053. Catalogued July 31, 1903.

Well-made skin in good condition; skull perfect.

**Macacus phæura** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 63, November 6, 1903.

121870. Skin and skull. Adult male. Siaba Bay, Nias Island, off west coast of Sumatra. March 20, 1903. Collected by Dr. W. L. Abbott. Original number 2399. Catalogued August 2, 1903.

Well-made skin in good condition; skull perfect, except shot hole in base of cranium.

**Macacus pumilus** Miller.

Proc. Wash. Acad. Sci., II, p. 241, August 20, 1900.

101639. Skin and skull. Adult male. Pulo Bunoa, Tambelan Islands, South China Sea. August 6, 1899. Collected by Dr. W. L. Abbott. Catalogued January 19, 1900.

Well-made skin in good condition; skull perfect; an old specimen, teeth worn, especially the canines, the left lower one of which is lost from age, and the two middle lower incisors also lost from age.

**Cynomolgus suluensis** Mearns.

Proc. U. S. Nat. Mus., XXVIII, No. 1402, p. 430, May 13, 1905.

=*Macaca suluensis* (Mearns).

125324. Skull (no skin). Adult male. Foot of Crater Lake Mountain, island of Sulu, Philippine Islands. November 16, 1903. Collected by Dr. E. A. Mearns, U. S. A. Original number 5750. Catalogued December 14, 1904.

Skull perfect, except slight deformity of incisors.

**Macacus umbrosus** Miller.

Proc. U. S. Nat. Mus., XXIV, No. 1269, p. 789, May 28, 1902.

111795. Skin and skull. Adult male. Little Nicobar, Nicobar Islands. February 25, 1901. Collected by Dr. W. L. Abbott. Original number 888. Catalogued August 14, 1901.

Well-made skin in good condition; skull perfect.

**Macacus rhesus villosus** True.

Proc. U. S. Nat. Mus., XVII, No. 976, p. 2, May 8, 1894.

39129. Skin and skull. Adult male. Lolab, Kashmir. September 8, 1891. Collected by Dr. W. L. Abbott.

Well-made skin in good condition; skull perfect, but evidently at one time in some pickling fluid, as it is slightly decalcified, especially the enamel of the teeth.

## Genus PRESBYTIS.

**Presbytes batuanus** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 65, November 6, 1903.

121810. Skin and skull. Adult male. Pulo Pinie, Batu Islands, off west coast of Sumatra. March 4, 1903. Collected by Dr. W. L. Abbott. Original number 2369. Catalogued August 2, 1903.

Well-made skin in good condition; skull perfect.

**Presbytis cana** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1485, p. 275, September 11, 1906.

122915. Skin and skull. Adult male. Pulo Kundur, Rhio-Linga Archipelago. June 28, 1903. Collected by Dr. W. L. Abbott. Original number 2558. Catalogued January 22, 1904.

Well-made skin in good condition; skull perfect.

**Presbytis carimatæ** Miller.

Proc. U. S. Nat. Mus., XXXI, No. 1481, p. 65, July 23, 1906.

125157. Skin and skull. Adult female. Telok Edar, Karimata Island. September 2, 1904. Collected by Dr. W. L. Abbott. Original number 3717. Catalogued December 9, 1904.

Well-made skin in good condition; skull perfect.

Type designated as No. 125158. It should have been 125157. The skull selected as type and marked as such and measured by Mr. Miller is No. 125157. The skin on which he tied the red label was No. 125158. As the skin of No. 125157 is exactly like that of 125158, and as the skull of No. 125157 is the only one carefully measured, No. 125157 is here considered the type.

**Presbytes rhionis** Miller.

Smithsonian Miscell. Coll., XLV, No. 1420, p. 64, November 6, 1903.

115665. Skin and skull. Adult female. Telok Pemudong, Pulo Bintang, Rhio-Linga Archipelago. August 15, 1902. Collected

by Dr. W. L. Abbott. Original number 1888. Catalogued January 5, 1903.

Well-made skin in good condition; skull perfect.

Genus *SIMIAS*.

***Simias concolor* Miller.**

Smithsonian Miscell. Coll., XLV, No. 1420, p. 67, pls. xiv, xv, xvi, November 6, 1903.

121659. Skin and skull. Adult male. South Pagi Island, off west coast of Sumatra. December 3, 1902. Collected by Dr. W. L. Abbott. Original number 2103. Catalogued July 31, 1903.

Well-made skin in good condition; skull perfect.

Family *HYLOBATIDÆ*.

Genus *SYMPHALANGUS*.

***Symphalangus klossii* Miller.**

Smithsonian Miscell. Coll., XLV, No. 1420, p. 70, pls. xvii and xviii, fig. 2, and pl. xix, fig. 1, November 6, 1903.

121678. Skin and skull. Adult male. South Pagi Island, off west coast of Sumatra. November 13, 1902. Collected by Dr. W. L. Abbott. Original number 2032. Catalogued July 31, 1903.

Well-made skin in good condition; skull perfect.

TYPE-SPECIMENS THAT SHOULD BE IN THE NATIONAL MUSEUM COLLECTION, BUT NO PART OF WHICH CAN NOW BE FOUND.

**Berardius bairdii** Stejneger.

Proc. U. S. Nat. Mus., VI, p. 75, June 22, 1883.

20992. Skull. Immature. Stare Gavan, eastern shore of Bering Island. Autumn of 1882. Collected by Dr. L. Stejneger. Original number 1520. Catalogued November 24, 1883.

Skull in good condition.

Type designated by the original number.

There is something wrong about the record of this skull. While it appears correct, the measurements do not agree with Doctor Stejneger's original measurements.—F. W. True.

**Phocæna australis** Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 33, pl. vi, fig. 2, 1848.

=? *Lagenorhynchus obscurus* (Gray). See True, Bull. U. S. Nat. Mus., No. 36, p. 104, 1889.

*Type-locality*.—South Atlantic Ocean, off coast of Patagonia.

Nothing is known about this specimen. It is not included in Peale's list of specimens, *loc. cit.*, p. 205.

**Delphinus albirostratus** Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 34, pl. vii, fig. 2, 1848. See True, Bull. U. S. Nat. Mus., No. 36, p. 62, 1889.

*Type-locality*.—Pacific Ocean, lat. 2° 47' 5" S., long. 174° 13' W.

Nothing is known about this specimen. It is not in Peale's list of specimens, *loc. cit.*, p. 305. Cassin says: "We find no specimen in the collection of the expedition." (U. S. Explor. Exped. Mamm. and Ornith., p. 32, 1858.)

**Delphinapterus borealis** Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 35, pl. viii, fig. 2, 1848.

= *Tursio borealis* (Peale). See True, Bull. U. S. Nat. Mus., No. 36, p. 80, 1889.

*Type-locality*.—Pacific Ocean, lat. 46° 6' 50" N., long. 134° 5' W.

Nothing is known about this specimen. It is not included in Peale's list of specimens, *loc. cit.*, p. 305. Cassin remarked that he had "no specimens for examination." (Cassin, U. S. Explor. Exped., Mamm. and Ornith., p. 30, 1858.)

**Delphinus bairdii** Dall. Cotypes.

Proc. California Acad. Sci., V, p. 12, printed in advance January 29, 1873.

= *Delphinus delphis* Linnaeus. See True, Bull. U. S. Nat. Mus., No. 36, pp. 45, 53, 1889.

Two females. Point Arguello, California. 1872. Collected by Capt. C. M. Scammon. "One entire skeleton has been forwarded to Washington."

A search through the Museum collection and catalogues fails to reveal these specimens. They may never have reached the Museum.

The cotypes were not designated by numbers.



**Delphinus lateralis Peale.**

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 35, pl. VII, fig. 1.

=*Prodelphinus* (?) *lateralis* (Peale). See True, Bull. U. S. Nat. Mus., No. 36, p. 65.

*Type-locality*.—Pacific Ocean, lat.  $13^{\circ} 58' N.$ , long.  $161^{\circ} 22' W.$

Nothing is known about this specimen. It is not in Peale's list of specimens, *loc. cit.*, p. 305. Cassin remarks, "We find no specimen in the collection of the expedition." (U. S. Explor. Exped., Mamm. and Ornith., 1858, p. 33.)

**Cervus macrotis californicus Caton.**

Amer. Nat., X, p. 464, August, 1876.

=*Odocoileus hemionus californicus* (Caton). See Thompson, Forest and Stream, LI, p. 286, October 8, 1898.

*Type-locality*.—Near Gaviota Pass, 40 miles up the coast from Santa Barbara, California.

Caton, p. 468, says, "As soon as the deer reached camp I selected a fair specimen, a buck, which I judged to be four years old, and prepared the skin and necessary parts of the skeleton for mounting. This I subsequently sent to the Smithsonian Institution. Professor Baird has expressed much interest about it, and assured me that it would be mounted and added to the collection of American quadrupeds at the Centennial [Exposition, Philadelphia, 1876], when those who take an interest in these studies may examine and compare it with others." Specimen killed March 22, 1876, probably.

An examination of the catalogue for 1875-76 shows the specimen to be  $\frac{1}{15} \frac{2}{3} \frac{3}{4} \frac{4}{4}$ , catalogued in the spring of 1876. Nothing further is known of it.

**Cervus lewisii Peale.**

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 39, 1848.

=*Odocoileus columbianus* (Richardson). See Trouessart, Catalogus Mammalium, p. 894, 1897.

There should be two cotypes, one from Feather River, upper California, the other from San Francisco Bay.

Nothing is known of their whereabouts; not even numbers are known.

**Lepus audubonii Baird.**

Mammals of North America, p. 608, pls. XIII (animal) and LVIII (skull).

$\frac{1}{2} \frac{1}{0} \frac{6}{4} \frac{3}{3}$ . Skin and skull, both lost. San Francisco, California. Received from Lieut. R. S. Williamson; collected by Dr. J. S. Newberry. Catalogued December 31, 1855.

No type was designated in the original description, and in the description itself there is nothing to show that Baird had in mind any particular one of the five specimens coming from three separated localities. (The specimens labeled "Presidio" probably came from Monterey, as is seen by reading the original labels and the entry in the catalogue. On pl. XIII Baird figures the entire animal, but does not state which specimen; however, on pl. LVIII a skull is figured and referred to by number, 2045. As this specimen seems to be mentioned more particularly than any other specimen, it seems well to take it as the type. The type-locality is thus restricted to San Francisco, California, as is done by Miller and Rehn. (Proc. Bost. Soc. Nat. Hist., XXX, p. 185, December, 1901.)

**Cricetodipus parvus** Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 53, 1848.

= *Perognathus parvus* (Peale). See Cassin, U. S. Exploring Expedition, Mammalia and Ornithology, p. 48, 1858.

*Type-locality*.—Oregon. Assumed to be The Dalles. See Osgood, North Amer. Fauna, No. 18, pp. 34–36, September 20, 1900.

Specimen should be in the Museum with the U. S. Exploring Expedition material. Nothing is known of it; not even number can be traced.

**Mus vitiensis** Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 49, 1848.

= *Mus musculus vitiensis* (Peale). See Trouessart, Catalogus Mammalium, p. 487, 1897.

*Type-locality*.—Fiji Islands.

Specimen should be in the Museum, with other U. S. Exploring Expedition material. It is probably No. 3731, an old mounted specimen that can not now be found. Catalogued December 20, 1859.

**Mus peruvianus** Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 51, 1848.

= ?*Oryzomys peruvianus* (Peale). See Trouessart, Catalogus Mammalium, p. 528, 1897.

*Type-locality*.—Callao, Peru.

The specimen should be in the Museum, with other U. S. Exploring Expedition material. It is probably No. 4955, an alcoholic, entered in the catalogue May 30, 1861, as *Mus musculus* from Callao, which can not be found.

**Arvicola montana** Peale.

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 44, 1848.

= *Microtus montanus* (Peale). See Trouessart, Catalogus Mammalium, p. 563, 1897.

Peale says, "Our specimen was obtained on the 4th of October, near the headwaters of the Sacramento River, in California."

The specimen can not be found. Its number is not known.

**Arvicola (Pitymys) pinetorum quasiater** Coues.

Proc. Acad. Nat. Sci. Phila., 1874, p. 191, December 15, 1874.

= *Microtus quasiater* (Coues). See Miller, North Amer. Fauna, No. 12, p. 60, July 23, 1896.

3524. Skin. Jalapa, Vera Cruz, Mexico. Collected by R. Montis d'Oca. Catalogued March 18, 1859.

The specimen can not found. There is no record of a skull. Dr. E. Coues says he had not seen the skull.

Type designated by number.

45336—08—19

**Sciurus fessor Peale.**

U. S. Exploring Expedition, VIII, Mammalia and Ornithology, p. 55, 1848.

*Type-locality*.—Probably southern Oregon.

The specimen should be in the Museum, with other U. S. Exploring Expedition material, but nothing is known of it. Cassin, U. S. Explor. Exped. Mamm. and Ornith., 1858, says specimens are in Academy of Natural Sciences, Philadelphia, and in National Museum and mentions it in list on page 424.

**Macrotus californicus Baird.**

Proc. Acad. Nat. Sci. Phila., X, p. 116, presented for publication May 4, 1858.

=**Otopterus californicus** (Baird). See Miller and Rehn, Proc. Boston Soc. Nat. Hist., XXX, p. 278, December 27, 1901.

2347. In alcohol. Fort Yuma, California. Collected by Maj. G. H. Thomas, U. S. A. Catalogued March 27, 1857.

Specimen can not be found. Dr. H. Allen evidently had it in 1894. See p. 39, Monograph Bats North America, March 14, 1894.

Type not designated by number in original description. One specimen is implied, and a table of measurements is given agreeing exactly with those given for No. 2347 in Baird's Report U. S. and Mex. Bound. Surv., II, Pt. 2, p. 4, 1859.

**Vespertilio agilis H. Allen.**

Proc. Acad. Nat. Sci. Phila., 1866, p. 282, ordered published August 28, 1866.

Dr. H. Allen says, "One individual. ♀. No. ? Mus. of Smithsonian Institution. Alcohol. Doctor Sartorius. Mirador, Mexico."

Nothing is known of the specimen.

**Vespertilio evotis H. Allen. Lectotype.**

Monograph of Bats of North America, Smithsonian Miscell. Coll., No. 165, p. 48, June, 1864.

=**Myotis evotis** (H. Allen). See Miller, North Amer. Fauna, No. 13, p. 77, October 16, 1897.

5389. In alcohol. Monterey, California. Collected by A. S. Taylor. Catalogued October 31, 1861.

The following quotation from Miller, *loc. cit.*, p. 77, is the reason for considering this specimen the type:

"*Type-locality*.—Not stated, and no type designated. In the original description specimens are mentioned from the upper Missouri River and the Pacific coast from Puget Sound to Cape St. Lucas. Monterey, Cal. (one of the localities given), may be selected as the type locality."

No. 5389 is the only specimen from Monterey, and Monterey having been chosen as the type-locality, 5389 should be considered as the type. The specimen can nowhere be found in the collection.

**Vespertilio exiguus H. Allen.**

Proc. Acad. Nat. Sci. Phila., 1866, p. 281, ordered published August 28, 1866.

5373. In alcohol. Aspinwall, New Granada, the present Colon,

**Panama.** Received from Dr. S. Hayes. Catalogued October 30, 1861.

Dr. H. Allen had but one specimen, a female in alcohol, designated by number. It can not be found.

**Vespertilio mundus** H. Allen.

Proc. Acad. Nat. Sci. Phila., 1866, p. 280, ordered published August 28, 1866.

5547. In alcohol. Maracaibo, Venezuela. Young female. Catalogued February 6, 1862.

Dr. H. Allen had but one specimen designated by number. The specimen can not be found.

**Myotis californicus pallidus** Stephens. Biol. Survey Collection.

Proc. Biol. Soc. Wash., XIII, p. 153, June 13, 1900.

99829. Skin and skull. Male. Vallecito, San Diego County, California. April 1, 1895. Collected by F. Stephens.

Specimen probably mislaid temporarily; formerly in collection, but not found at present.

**Vespertilio tenuidorsalis** H. Allen.

Proc. Acad. Nat. Sci. Phila., 1866, p. 283, ordered published August 28, 1866.

=**Myotis californicus** (Audubon and Bachman). See Miller, North Amer. Fauna, No. 13, p. 36, October 16, 1897.

Dr. H. Allen says, "One individual. ♀. No. 5533. Mus. Smithsonian Institution. Alcohol. Cape St. Lucas, Lower Cal. John Xantus." There is some mistake in the number, as the catalogue number 5533 calls for a "*V. nitidus*, Puget Sound."

This specimen can not be found in the National Museum. Mr. James A. G. Rehn has informed us it is now in the collection of the Academy of Natural Sciences, Philadelphia.

**Vespertilio yumanensis** H. Allen. Cotypes.

Monograph Bats North America, Smithsonian Miscell. Coll., No. 165, p. 58, June, 1864.

=**Myotis yumanensis** (H. Allen) Miller, North Amer. Fauna No. 13, p. 66, October 16, 1897.

No type designated. Four specimens are measured 5367, 6019, 6020, 6021, and all must be considered as cotypes; no preference for one over the other is shown, and all come from one locality, Fort Yuma, California, collected by Maj. G. H. Thomas, U. S. A., in 1855. All were in alcohol. None of the specimens can be found. In his "List of Specimens" Allen says 36 individuals were under number 5367. The catalogue says 8 bore that number.

**Scotophilus miradorensis** H. Allen.

Proc. Acad. Nat. Sci. Phila., 1866, p. 287, ordered published August 28, 1866.

=**Eptesicus fuscus miradorensis** (H. Allen). See Miller, Bull. U. S. Nat. Mus., No. 57, p. 209, June 29, 1907.

No type mentioned. Dr. H. Allen says, "One individual. ♀. Mus. of Smithsonian Institution. Alcohol. Mirador, Mexico. Dr. Sartorius." It is undoubtedly No. 5411, catalogued October 31, 1861, along with other bats that Dr. H. Allen was working with at the time; 5411 has the same data that Doctor Allen gives. Also see his second Monographs of Bats of North America, 1893, p. 121, where 5411 is given in the list of specimens of *Adelonycteris fuscus*.

It can not be found.

**Rhogeëssa parvula H. Allen.**

Proc. Acad. Nat. Sci. Phila., 1866, p. 285, ordered published August 28, 1866.

7841. Adult male. In alcohol. Tres Marias Islands, Mexico. Received from Col. A. J. Grayson, U. S. A. Catalogued in first half of 1865.

The specimen can not be found in the National Museum. Mr. James A. G. Rehn informs us it is in the collection of the Philadelphia Academy of Natural Sciences, and in very bad condition.

**Lasiurus intermedius H. Allen.**

Proc. Acad. Nat. Sci. Phila., 1862, p. 246, ordered published April 29, 1862.

=*Dasypterus intermedius* (H. Allen). See H. Allen, Monograph, Bats of North America, Bull. U. S. Nat. Mus., No. 43, p. 137, March 14, 1894.

6136. In alcohol. Matamoras, Tamaulipas, Mexico. Received from Lieut. D. N. Couch, U. S. A. (Berlandier collection). Catalogued February 7, 1863.

The specimen can not be found.

In the original description a table of measurements is given, and by referring to p. 26 of H. Allen's Monograph of Bats of North America, June, 1864, it is seen that those measurements refer to the last specimen in the table of measurements there given. Unfortunately it is not numbered. By checking off the six preceding numbers in the "List of specimens" it is seen that the single unnumbered specimen in the table of measurements must have been 6136. Since that was the specimen measured in the original description, it is here regarded as type. Of the seven bats listed in the original description, 5328 is the only one that can be found.

**SUMMARY OF THE TYPE-SPECIMENS OF MAMMALS IN THE UNITED STATES NATIONAL MUSEUM, GROUPED BY AUTHORS AND BY COLLECTORS.**

The total number of type-specimens of mammals in the United States National Museum, as shown by the foregoing catalogue, is 1,405. Of these, 692 are in the collection of the Division of Mammals and 713 in the Biological Survey Collection.

As a matter of some interest, the following tables have been prepared. They show the respective number of type-specimens described by different authors, and similarly the number collected by different persons.

A large proportion of the types have been described by recent authors, who have worked with large series of specimens and with careful as well as modern methods of discrimination. Nearly every prominent worker in the history of American mammalogy is represented. Thus, the list includes such well-known names as Audubon, Bachman, Baird, Cassin, Cope, Coues, Kennicott, LeConte, and Peale, and others equally prominent among the living zoologists. The list of collectors also includes many highly honored names, especially of those connected with early government exploring expeditions and surveys. The large number of type-specimens of African and Malayan mammals is due almost entirely to the enthusiasm of Dr. W. L. Abbott, who has devoted the best years of his life to exploring regions previously but little known. He has generously presented his collections to the National Museum. Dr. E. A. Mearns, U. S. A., has also been a generous contributor of specimens, especially from the region of the Mexican boundary and from the Philippines. All the types in the Biological Survey collection are the result of recent work, and a great majority of them were collected and described by mammalogists on the staff of the Survey.

Type-specimens not at present existing in the National Museum are not taken into account in the following lists. The discrepancy between the number of authors and the number of collectors is caused by the inclusion of cotypes described by one author, but collected by more than one person.

**AUTHORS WHO HAVE DESCRIBED TYPE-SPECIMENS OF MAMMALS IN THE UNITED STATES NATIONAL MUSEUM, EXCLUSIVE OF THE BIOLOGICAL SURVEY COLLECTION.**

Dr. Harrison Allen.....	17	Dr. Theodore Gill.....	6
Dr. J. A. Allen.....	21	Dr. F. V. Hayden.....	1
Dr. Knud Andersen.....	9	Robert Kennicott.....	4
John James Audubon and Rev. John Bachman.....	1	Major John Eatton LeConte, U. S. A.	11
Dr. W. O. Ayres.....	1	Dr. Marcus W. Lyon, jr. (see also Robinson and Lyon).....	37
Rev. John Bachman (see also Audu- bon and Bachman).....	1	Dr. E. A. Mearns, U. S. A.....	77
Secretary S. F. Baird.....	57	Dr. C. Hart Merriam.....	28
Dr. J. L. Berlandier.....	1	Gerrit S. Miller, jr.....	317
John Cassin.....	1	E. W. Nelson.....	7
Frank M. Chapman.....	1	Wilfred H. Osgood.....	4
Dr. J. G. Cooper.....	1	Titian R. Peale.....	10
Prof. E. D. Cope.....	11	Edward A. Preble.....	1
Dr. Elliott Coues, U. S. A.....	12	Dr. D. W. Prentiss, jr.....	1
Dr. W. H. Dall.....	2	James A. G. Rehn (see also Stone and Rehn).....	1

Samuel N. Rhoads.....	1	Frank Stephens.....	1
Major Wirt Robinson, U. S. A., and Dr. M. W. Lyon, jr.....	2	Witmer Stone and James A. G. Rehn.....	1
Hon. Walter Rothschild.....	1	Oldfield Thomas.....	1
Capt. C. M. Scammon.....	1	C. H. Townsend.....	1
Dr. R. W. Shufeldt, U. S. A.....	1	Dr. F. W. True.....	34
Dr. J. H. Slack.....	1	Dr. S. W. Woodhouse.....	5
Dr. Leonhard Stejneger.....	1		692

COLLECTORS OF TYPE-SPECIMENS OF MAMMALS IN THE COLLECTION OF THE UNITED STATES NATIONAL MUSEUM, EXCLUSIVE OF THE BIOLOGICAL SURVEY COLLECTION.

Dr. W. L. Abbott.....	286	Exploring Expedition, United States. (Mainly collected by T. R. Peale.)	13
Col. J. J. Abert, U. S. A.....	1	James Fairie.....	1
C. F. Adams.....	2	Leonardo Fea.....	1
Dr. J. A. Allen.....	1	John Feilner.....	1
A. W. Anthony.....	2	G. Flemming.....	2
F. B. Armstrong.....	1	William T. Foster.....	1
Dr. W. O. Ayres.....	2	Prof. William M. Gabb.....	7
Secretary S. F. Baird.....	2	George Gibbs.....	1
G. L. Bates.....	1	E. A. Goldman.....	1
C. W. Baxter.....	1	B. F. Goss.....	1
Dr. D. Beccari.....	1	W. Grasshoff.....	1
Paul Beckwith.....	2	Col. A. J. Grayson, U. S. A.....	3
Dr. James E. Benedict.....	1	Guatemala Exhibit, World's Columbian Exposition, Chicago, 1893.....	1
Paul D. Bergen.....	1	Leon J. Guthrie.....	6
Dr. J. L. Berlandier.....	3	Dr. J. F. Hammond.....	1
Dr. L. F. H. Birt.....	1	Dr. W. A. Hammond, U. S. A.....	2
Ferdinand Bischoff.....	1	W. L. Hardisty.....	1
Dr. C. C. Boyle.....	1	Dr. F. V. Hayden.....	6
H. Selwyn Branch.....	5	Lieut. W. L. Herndon, U. S. N.....	1
Dr. T. M. Brewer.....	1	Capt. Ludwig Ritter von Höhnel, Austro-Hungarian Navy. (See Chanler and von Höhnel.)	
R. E. Carson.....	1	F. X. Holzner (see also Mearns and Holzner).....	3
Charles Cavileer.....	2	Charles Hose.....	1
Hon. William Astor Chanler.....	2	Ernest and Charles Hose.....	1
Hon. William Astor Chanler and Capt. Ludwig Ritter von Höhnel, Austro-Hungarian Navy.....	1	H. S. Howland.....	1
J. H. Clark.....	9	Dr. P. R. Hoy.....	2
O. F. Cook.....	1	J. W. Humphreys.....	1
Dane Coolidge.....	3	Col. E. Jewett.....	1
Dr. J. G. Cooper.....	8	Prof. Walter R. Johnson.....	1
Juan Cooper.....	1	Dr. David Starr Jordan.....	1
William Cooper.....	1	P. L. Jouy.....	2
Prof. E. D. Cope.....	1	Dr. C. B. Kennerly.....	3
C. B. Cory.....	1	Robert Kennicott.....	2
Gen. D. N. Couch, U. S. A.....	4	C. Boden Kloss.....	5
Dr. Elliott Coues, U. S. A.....	6	Valdemar Knudsen.....	1
Dr. S. W. Crawford.....	1	F. Kreutzfeld.....	4
Rolla P. Currie.....	6	Maj. John Eatton LeConte, U. S. A.....	9
Dr. W. H. Dall.....	3	Dr. John Lawrence LeConte.....	1
Lieut. John Davison.....	1	J. Alden Loring.....	2
Dall DeWeese.....	1	Dr. M. W. Lyon, jr. (See Robinson and Lyon.)	
R. Montis D'Oca.....	1		
Capt. J. M. Dow.....	1		
Charles Drexler.....	2		
Gustav Eisen.....	1		

C. S. McCarthy.....	1	Dr. G. G. Shumard.....	1
L. M. McCormick.....	1	W. W. Simpson.....	2
P. McDonough.....	1	William G. Smith.....	1
Mrs. C. McElroy.....	1	Capt. Howard Stansbury's Expedi-	
Dr. W J McGee.....	1	tion to Great Salt Lake.....	1
R. Macfarlane.....	3	Prof. J. B. Steere.....	2
Dr. G. E. Manigault.....	1	Miss Thora Steineger.....	1
W. T. March.....	1	Dr. Leonhard Stejneger.....	6
Dr. E. A. Mearns, U. S. A.....	46	Dr. Leonhard Stejneger and Dr. C. W.	
Dr. E. A. Mearns, U. S. A., and F. X.		Richmond.....	1
Holzner.....	19	Mrs. Leonhard (Marie) Stejneger....	1
J. W. Mitchell.....	2	Frank Stephens.....	2
Prof. E. S. Morse.....	1	Dr. William Stimpson.....	2
John Mullan.....	1	Dr. George Suckley.....	6
John Murdoch.....	1	Prof. F. Sumichrast.....	2
E. W. Nelson.....	6	A. S. Taylor.....	1
Dr. J. S. Newberry.....	1	Gen. G. H. Thomas, U. S. A.....	4
Dr. E. Palmer.....	1	Prof. Zadock Thompson.....	2
William Palmer.....	1	Aurelius Todd.....	1
William Palmer and J. H. Riley....	2	C. H. Townsend.....	12
Titian R. Peale. (See U. S. Explor-		Lieut. W. P. Trowbridge, U. S. A....	7
ing Expedition.)		Dr. F. W. True and Dr. D. W.	
O. A. Peterson.....	5	Prentiss, jr.....	1
Gen. J. Pope, U. S. A.....	1	Lucien M. Turner.....	5
John Potts.....	1	W. T. Van Dyck.....	1
Dr. D. W. Prentiss, jr. (See True		Dr. E. P. Vollum.....	2
and Prentiss.)		Col. B. L. C. Wailes.....	1
B. S. Rairden, U. S. Consul, Batavia.	1	John Wallace.....	1
Gen. P. H. Ray, U. S. A.....	1	Dr. W. S. White.....	1
Dr. C. W. Richmond. (See Stejne-		George D. Wilder.....	1
ger and Richmond.)		William Wittfield.....	1
J. H. Riley (see also Palmer and		Erich Wittkugel.....	2
Riley).....	1	H. D. Wolf.....	1
Major Wirt Robinson, U. S. A.....	3	Dr. S. W. Woodhouse.....	5
Major Wirt Robinson, U. S. A., and		Gustav Wurdemann.....	1
Dr. M. W. Lyon, jr.....	3	John Xantus.....	6
Edward Samuels.....	3	Robert T. Young.....	3
Dr. C. Sartorius.....	2	José C. Zeledon.....	5
Capt. C. M. Scammon.....	4	Ernst Zollikofer.....	2
Dr. Arthur Schott.....	6	Collector unknown <sup>a</sup> .....	12
Ernest Thompson Seton.....	1		
Dr. R. W. Shufeldt, U. S. A.....	1		696

AUTHORS WHO HAVE DESCRIBED TYPE-SPECIMENS OF MAMMALS IN THE COLLECTION OF THE UNITED STATES NATIONAL MUSEUM, BIOLOGICAL SURVEY COLLECTION.

Dr. J. A. Allen.....	16	Dr. C. Hart Merriam.....	480
Dr. Knud Andersen.....	2	Gerrit S. Miller, jr.....	19
Vernon Bailey.....	42	E. W. Nelson.....	39
Merritt Cary.....	2	Wilfred H. Osgood.....	70
E. A. Goldman.....	17	Edward A. Preble.....	15
Dr. Walter L. Hahn.....	1	Frank Stephens.....	1
Arthur H. Howell.....	8		
Dr. E. A. Mearns, U. S. A.....	1		713

<sup>a</sup> Of these 1 was purchased from Ward's Natural Science Establishment, 4 from C. K. Worthen, 1 from Wilhelm Schlüter, 1 received from John Varden, and 2 from the U. S. Bureau of Fisheries.



## COLLECTORS OF TYPE-SPECIMENS OF MAMMALS IN THE COLLECTION OF THE UNITED STATES NATIONAL MUSEUM, BIOLOGICAL SURVEY COLLECTION.

J. F. Abbott.....	1	W. Lloyd.....	6
G. S. Agersborg.....	1	J. Alden Loring.....	17
A. W. Anthony.....	5	D. H. Luckey.....	1
F. B. Armstrong.....	4	G. M. McGuire.....	1
H. P. Attwater.....	2	E. A. McIlhenny.....	1
G. B. Badger.....	1	J. E. McLellan.....	12
Vernon Bailey (see also Merriam and Bailey).....	70	W. G. Mackay and G. F. Dippie.....	1
Vernon Bailey and Dr. B. H. Dutcher, U. S. A.....	3	A. G. Maddren. (See Osgood and Maddren.).....	
A. B. Baker.....	1	C. H. Marsh.....	1
C. M. Barber.....	3	C. J. Maynard.....	1
B. J. Bretherton.....	5	Dr. C. Hart Merriam.....	13
C. S. Brimley.....	1	Dr. C. Hart Merriam and Vernon Bailey.....	22
Herbert Brown.....	1	Dr. C. Hart Merriam and E. W. Nelson.....	1
F. Brune.....	1	A. C. Murray.....	1
A. S. Bunnell.....	1	E. W. Nelson (see also Palmer and Nelson).....	78
John Burlingame.....	1	E. W. Nelson and E. A. Goldman.....	227
Merritt Cary.....	5	H. C. Oberholser.....	1
C. Catt.....	1	Wilfred H. Osgood.....	13
H. A. Cluff.....	1	Wilfred H. Osgood and E. Heller....	5
B. L. Cunningham.....	3	Wilfred H. Osgood and A. G. Mad- dren.....	2
Dall DeWeese.....	1	C. Palache.....	1
G. F. Dippie. (See Mackay and Dip- pie.).....		Dr. T. S. Palmer.....	10
Dr. B. H. Dutcher, U. S. A. (see also Bailey and Dutcher).....	7	Dr. T. S. Palmer and E. W. Nelson..	1
H. and C. Emmet.....	1	W. Pavlof.....	1
G. T. Emmons.....	1	Alfred E. Preble (see also Preble and Preble).....	1
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