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## MAMMALS FROM MARCAPATA, SOUTHEASTERN PERU

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### SUMARIO

MAMIFEROS DE MARCAPATA, SUD-ESTE DEL PERU, por COLIN CAMPBELL SANBORN.—Catálogo de una colección de 500 ejemplares cazados, en el distrito de Marcapata, Provincia de Quispicanchis, Departamento del Cuzco, por el señor Celestino Kalinowski y enviados al Museo de Historia Natural de Chicago.—Consta de 54 especies, entre las cuales 25 murciélagos y 6 marsupiales. Hay una especie de marsupial y una sub-especie de murciélago nuevas, descritas en otra publicación, y 7 formas nuevas para la fauna del Perú.

The literature dealing with Peruvian mammals has many references to specimens collected by J. Kalinowski in central and southeastern Peru. Those from southeastern Peru came from his home, the Hacienda Cadena, Provincia de Quispicanchis, Distrito de Marcapata, Departamento de Cuzco. It is the type locality for three species, one of which, *Dasyprocta kalinowskii* Thomas was named for him. No other collector has visited this region.

Señor Kalinowski's son, Celestino, has his father's interest in natural history and after a year of training and study at the Chicago Natural History Museum returned in November 1948 to Marcapata where he has collected for the past two years.

His collection of mammals totals nearly 500 specimens and contains a large number of rarities. A new genus and species of mar-

supial and a new subspecies of bat are represented, seven species are new to the fauna of Peru, and fourteen have never been recorded from the area. Of the 54 species collected, 25 are bats, six of them new to the Peruvian fauna. On the whole it is a most important collection, adding much to the knowledge of distribution, and raising questions of subspeciation that can only be answered by further material from other parts of Peru.

A set of the duplicates has been presented by the Chicago Natural History Museum to the Museo "Javier Prado".

**Marmosa mapiriensis** Tate

*Marmosa mapiriensis* Tate, 1931, Amer. Mus. Novitates, N° 493, p. 3.

Specimens examined.—Hacienda Cadena, 23-24 Nov., 22 Dec. 1948 — 1 female, 1 juv. female, 1 juv. male; 25, 30 Nov. 1949 — 1 female, 1 juv. male; 25 Feb. 1950 — 1 female

In the adult the terminal half of the tails are white and in the juvenile specimens the tails are spotted with white.

**Marmosa noctivaga keaysi** (Allen)

*Thylamys keaysi* Allen, 1900, Bull. Amer. Mus. Nat. Hist., vol. 13, p. 198.

Specimens examined.—Hacienda Cadena, 5-10 Dec. 1949 — 1 female, 1 juv. male; Quincemil, 12 July 1950 — 1 male.

This species is smaller and darker than *mapiriensis* and the tail is unicolored.

**Philander opossum canus** (Osgood)

*Metachirus opossum canus* Osgood, 1912, Field Mus. Nat. Hist., Zoll. Ser., vol. 10, p. 96.

Specimens examined.—Hacienda Cadena, 18 Oct. 1949 — 1 male; 16 Aug. 1950 — 1 female.

This species has a wide range in eastern Peru extending south into Bolivia.

**Chironectes minimus (Zimmermann)**

*Latra minima* Zimmermann, 1780, Geog. Ges. Mensch. vierfuss. Thiere, vol. 2, p. 317.

Specimens examined.—Hacienda Cadena, 17 Aug. 1950 — 1 male.

The Chicago Natural History Museum has a female and young from Moyobamba, Dept. San Martin and a skin without skull from Pozuzo, Dept. Huanuco. It has also been recorded (Allen 1900) from Santo Domingo, Dept. Puno.

**Caluromys laniger ornatus (Tschudi)**

*Didelphys ornata* Tschudi, 1844, Mamm. Conspectus Arch. Natur., p. 250 — nomen nudum; Tschudi, 1845-46, Fauna Peruana, vol. 1, p. 146-148, Taf. VII.

Specimens examined.—Hacienda Cadena, 9 March 1950 — 1 male; 15 Aug. 1950 — 1 male.

**Caluromysiops irrupta Sanborn**

*Caluromysiops irrupta* Sanborn, 1951, Fieldiana, vol. 31, p. 473, fig. 87 (animal), fig. 88 (Skull).

Specimens examined.—Quincemil, 11 July 1950 — 1 subadult male.

*Color.*—General color of most of upper parts gray; hair near Mouse Gray (Ridgway, 1912) lightened by silvery white tips. Face with faint black markings in front of eyes and on nose. Two separate black lines extending from upper side of front feet along inner side of legs and back over shoulders (where they are the widest), down back and over rump to inner side of hind legs and on to upper side of feet. They are narrowly continued on sides of tail for the basal third of its length and become broad on the sides of the middle third of the tail. Under side gray with buffy tips to

hairs. A faint buffy line down center of belly ending in a large area, near Clay Color, between legs on lower belly. Upper side of tail for three quarters of its length back but darker. Last quarter of tail creamy white. Under side of tail naked for three quarters of its terminal length, the naked area a third of the width of the tail basally and the hairs receding on the sides so only upper third of the tail is haired at its tip. The naked area of the tail is flesh color with fine brownish black markings as found in *Caluromys*. The ears are flesh color and thinly covered with white hairs. The toes on the left front foot are white while those on the right foot are black.

*Skull.*—The skull is subadult, with milk premolar<sup>3</sup> in place,  $m^3$  and  $m^4$  missing ( $m^3$  was probably lost in cleaning the skull). The lower jaw has  $p_3$  in place,  $m_3$  just erupting and no  $m_4$ . It has been compared with a *Caluromys* of about the same age.

The skull has the same form and general shape as found in *Caluromys*. The molars, at least the first two upper molars and the first three lower molars are much larger and heavier than in fully adult skulls of *Caluromys*. The dental pattern appears to be slightly different but this can not be fully ascertained until an adult is available for examination. The audital bullae are also larger than those in *Caluromys*.

*Measurements* (Skin measurements by collector).—Total length 442 mm.; tail 225; hind foot 39; ear 31. Skull: greatest length 48.4 mm.; condylobasal length 47.3; palatal length 24.8; length of nasals 19.7; interorbital width 8.9; zygomatic width 27.9; mastoid width 19.3; width of brain case 19.9; upper tooth row  $c - m^2$  15.7; length of  $m^1 - m^2$  6.1; width of  $m^2$  2.9; lower tooth row  $c - m_3$  19.8; length of  $m_1 - m_2$  6.3; width of  $m_1$  2.1; width of  $m_2$  1.9.

*Remarks.*—It is believed that an adult *Caluromysiops* would be as large or even larger than an adult *Caluromys* and it is expected that there might be a greater amount of black on the face, perhaps even circling the eyes. The black pattern in *Caluromysiops* has a faint parallel in a subadult specimen of *Caluromys* from Panama in which the brownish color starts on the inner side of the forelegs

and continues down the back to the hind legs. The naked tail of *Caluromysiops* suggests a relationship to *Glironia* but in that genus the under side of the tail is not entirely naked but clothed with very short hairs.

It is remarkable that this animal has remained undiscovered for so long as Sr. Kalinowski's father began collecting in the area in the 1880's and his son has continued the collecting, being especially active the past two years. He has been urged to make every effort to secure an adult.

### **Rhynchiscus naso (Wied)**

*Vespertilio naso* Wied, 1820, Reise nach Brasiliens, vol. 1, p. 251, footnote.

**Specimens examined.**—Huajyumbe, 26 Sept. 1950 — 1 male, 2 females (1 alc.).

The species has been taken a little to the north at three localities on the Rio Ucayali, but never so far south in Peru. The specimens were taken from a "rock in the river".

### **Saccopteryx bilineata (Temminck)**

*Urocryptus bilineatus* Temminck, 1938-39, Van der Hoven's Tijdschr. Nat. Gesch. en Physiol., vol. 5, p. 33.

**Specimens examined.**—Huajyumbe, 29 Sept. — 1 male, 7 females (2 alc.).

This bat was first recorded from Peru in 1893 from Chanchamayo. It was next reported in 1928 from four localities on the Rio Ucayali where it was again found in 1949. This series extends the range in Peru farther south. When the species was revised in 1937 (Sanborn) the forearm range was given as 41.7 mm. for Mexican specimens to 50.5 for one from Bolivia. The forearms in his series of females are large, ranging from 48.6 mm. to 51.5 mm. The collector's notes state they were taken from a "tree hole".

***Peropteryx kappleri intermedius* Sanborn**

*Peropteryx kappleri intermedius* Sanborn, 1951, *Fieldiana — Zool.*, vol. 31, p. 476.

**Specimens examined.**—Hacienda Cadena, 29 Aug. 1950 — 2 males, 2 females (1 alc.).

This bat is intermediate in size between *macrotis* (skull length 12-15 mm.) and *kappleri* (skull length 16.0-17.8 mm.) with a skull length of 15.3-15.9 mm. The forearm measures 45.4 mm. to 49.5 mm. *P. macrotis* is known from La Pampa, Dept. Puno but *kappleri* has never been recorded from Peru.

***Micronycteris megalotis megalotis* (Gray)**

*Phyllophora megalotis* Gray, 1842, *Ann. Mag. Nat. Hist.*, ser. 1, vol. 10, p. 257.

**Specimens examined.**—Hacienda Cadena, 10 Jan. 1949 — 2 males (1 alc.), 2 females (1 alc.); Feb., March, June, Aug., Sept. 1950 — 6 males (2 alc.), 7 females (3 alc.); Quincemil, 26 June 1950 — 2 males.

The four specimens collected in 1949 were so much darker than any known *Micronycteris* that they were thought to represent a new subspecies. The color is Mummy Brown (Ridgway, 1912) above, little lighter below. In one there is a dark reddish brown patch on the nape. The series collected in 1950 has among it some specimens just as dark but also includes others normally colored. This rainy area has produced numerous dark races (i.e. *Lagidium saturata* Thomas, *Akodon jelskii inambarii* Thomas, *Phyllotis phaeus* Osgood, *Akodon boliviensis subfuscus* Osgood, *Oxymycterus paramensis nigrifrons* Osgood, and *Histiotus montanus inambarus* Anthony) and its effect is shown in some of these specimens of *Micronycteris*.

***Tonatia amblyotis amblyotis* (Wagner)**

*Phyllostoma amblyotis* (Natt. M.S.) Wagner, 1843, *Arch. f. Naturg.*, p. 365.

**Specimens examined.**—Hacienda Cadena, 6 Sept. 1950 — 1 male.

This species is new to this region but has been taken on the Rio Ucayali and other localities in Peru. The collector's notes stated that it was taken "in insect nest" which may mean from hole in a termite nest.

### *Phyllostomus elongatus* Geoffroy

*Phyllostomus elongatum* Geoffroy, 1810, Ann. Mus. d'Hist. Nat., Paris, vol. 15, p. 182, pl. 9.

**Specimens examined.**—Hacienda Cadena, 30 Dec. 1948, 21 Nov. 1949 — 1 male, 2 females; Huayjumbe, 27 Sept., 4 Oct. 1950 — 1 male, 7 females.

These specimens represent the first record of the occurrence of this species in Peru. It was described from "South America" and has been taken in Dutch Guiana, Brazil, and Ecuador. These specimens are brownish red and blackish gray, representing the two color phases found in this species. In the majority the ends of the wings are broadly tipped with white.

**Measurements.**—Forearm 63.5-68.6 mm. Skull: greatest length 28.5-31.8 mm.; condylo-basal length 24.0-25.9; palatal length 12.4-12.9; interorbital width 5.3-5.7; zygomatic width 15.2-16.9; mastoid width 14.1-14.3; width of brain case 10.9-11.4; upper tooth row 10.4-10.8; across outer edges of canines 7.3-7.6; across outer edges last molars 11.0-11.5.

### *Phyllostomus hastatus hastatus* (Pallas)

*Vespertilio hastatum* Pallas, 1767, Spicilegia Zool., vol. 3, p. 7.

**Specimens examined.**—Huayjumbe, 12 Sept. to 4 Oct. 1950 — 11 males (4 alc.), 25 females (14 alc.).

This is a common bat found in all tropical regions of Peru. This large series was taken from a "tree hole".

**Lonchoglossa caudifera aequatoris** Lonnberg

*Lonchoglossa wiedi aequatoris* Lonnberg, 1921, Arkiv. Zool.,  
vol. 14, N° 4, p. 65.

**Specimens examined.**—Nusiniscato River, Balceadero, 6-14 Nov. 1949 — 2 males, 5 females; Hacienda Cadena, 2 Dec. 1948, 14 Nov. 1949 — 1 male, 1 female; 10 June, 29 Aug. 1950 — 2 males; Huajyumbe, 6 Oct. 1950 — 2 females (alc.); Sagrario, Dept. Puno, 10 Oct. 1941 (CCS) — 1 male (alc.), 1 female.

This race was described from Illambo, Gualea, Ecuador as being much darker than typical *caudifera* from eastern Brazil. Some of the series from Balceadero are almost as dark as a toptype of *aequatoris*. They are all darker than specimens of *caudifera* from eastern Brazil, especially the bases of the hairs which are not so broadly light colored. The pair from Sagrario, collected by the author are not quite so dark but are still darker than *caudifera*.

The forearms measure from 33.6-36.5 mm. and the greatest length of the skulls 20.5-22.9 mm., which is smaller than in *caudifera*.

This race has also been recorded (Sanborn, 1941), from the Vitoc Valley, Junin, the only other record for Peru.

*Carollia perspicillata perspicillata* (Linnaeus)

*Vespertilio perspicillatus* Linnaeus, 1758, Syst. Nat., ed. 10,  
p. 31.

**Specimens examined.**—Hacienda Cadena, 2 Dec. 1948 to 14 Feb. 1949, 28 Nov. 1949 — 6 males, 5 females; Feb., March, June, Aug. 1950 — 6 males (2 alc.), 12 females (4 alc.); Balceadero, 24 Oct. to 5 Nov. 1949 — 4 males, 4 females; Huajyumbe, 6 Oct. 1950 — 3 males (2 alc.), 1 female (alc.).

This series contains individuals in both the brown and blackish color phases. They were collected from "tree hole" and in cave.

*Uroderma bilobatum thomasi* (Andersen)

*Uroderma thomasi* Andersen, 1900, Anp. Mag. Nat. Hist., ser.  
7, vol. 18, p. 419.



**Specimens examined.**—Nusiniscato River, 14 Dec. 1949 — 2 females.

These are referred to *thomasi*, described from northern Bolivia, on the length of the skull, 24.4 mm., although the tooth rows are short for this race.

### **Vampyrops fumosus** Miller

*Vampyrops fumosus* Miller, 1902, Proc. Acad. Nat. Sci., Philadelphia, p. 405; Sanborn, 1936, Field Mus. Nat. Hist., Zool. Ser., vol. 20, p. 101 — Ecuador; Sanborn, 1941, idem, vol. 27, p. 377 — Peru (Junin).

**Specimens examined.**—Hacienda Cadena, 26 May, 14 Aug. 1950 — 1 male, 2 females; Huajyumbe, 22 July, 30 Sept., 3 Oct. 1950 — 2 males, 3 females.

The forearm measurements on this series range from 53.5 mm. to 59.9 mm., males and females showing no marked difference in size. Three specimens from Junin have forearms of 55.2-57.4. This measurement in three Ecuadorian and Colombian example is 52.0-57.0. The skulls are all about the same size, in specimens with either long or short forearms. The white dorsal line appears in all this series but in one or two is so faint that it is barely discernible.

One specimen from Ecuador has been compared with the type of *fumosus* in the U.S. National Museum and as the others do not differ from it they have been identified as this species.

Peters (1880) described *Vampyrops infuscus* from the Gruta de Ninabamba, Hacienda Ninabamba, Provincia de Hualgayoc, Departamento de Cajamarca, Peru. The type was collected by Taczanowski and as it was in the Warsaw Museum was probably destroyed during the World War II. From the description *V. infuscus* appears to differ from *fumosus* mainly by the absence of the white dorsal line. The forearm is short measuring 52.0 mm. in length but this is equaled by a specimen of *fumosus* from Ecuador.

It seems highly probable Miller's *fumosus* from the Purus River, Brazil is a synonym of Peter's *infuscus* from Peru. As this can not be settled until topotypes of *infuscus* are available, the specimens must be referred to *fumosus*.

**Vampyrops dorsalis** Thomas

*Vampyrops dorsalis* Thomas, 1900, Ann. Mag. Nat. Hist., ser. 7, vol. 5, p. 269.

**Specimens examined.**—Camante, 2,000 meters, 31 Aug. 1950 — 1 male.

The type of *dorsalis*, and the only specimen known, came from Paramba, North Ecuador at an altitude of 1,100 meters. The author examined and measured this type in the British Museum (Natural History), London in September 1949 and bases the identification of this Peruvian specimen on these notes. This specimen is slightly smaller than the type but otherwise agrees with it. The Chicago Natural History Museum has a subadult *Vampyrops* from the Tunguilla Valley, 1,500 meters, Ecuador that is also probably *dorsalis*. While *dorsalis* and some *fumosus* appear very much alike externally, the dorsal hair of *fumosus* is nearly unicolor, and in *dorsalis* the bases of the hairs are lighter in color than the tips. The skulls, however, differ greatly in size.

**Measurements** (the author's measurements of the type of *dorsalis* in parentheses).—Forearm 47.5 mm. (49.0). Skull: greatest length 27.3 mm. (27.5); condylo-basal length 24.8 (25.1); palatal length 13.7 (12.0); interorbital width 6.8 (6.2); intertemporal width 6.0 (6.3); zygomatic width 16.2 (15.3); mastoid width 13.3 (13.5); width of brain case 11.3 (10.9); upper tooth row 10.3 (10.9); distance across outer edges of canines 6.8 (6.9); distance across outer edges of molars 11.7 (11.5).

**Mesophylla macconnelli** Thomas

*Mesophylla macconnelli* Thomas, 1901, Ann. Mag. Nat. Hist., ser. 7, vol. 8, p. 145; Thomas, 1949, Ann. Mag. Nat. Hist., ser. 8, vol. 4, p. 231 — Guayaquil, Ecuador; Anthony, 1921, Zoologica, vol. 3, p. 280 — Kartabo, British Guiana; Lima, 1926, Rev. Mus. Paulista, vol. 15, p. 89 — Rio Jurua, Amazonas, Brazil (meas.); Cunha Vieira, 1942, Arq. Zool. São Paulo, vol. 3, p. 368, fig. 29 — Rio Jurua, Brazil (meas.)

**Specimens examined.**—Hacienda Cadena, 23 January 1949 — 1 female; 24 Feb., 20 March, 18-24 Aug. 1950 — 3 males, 6 females (1 alc.); Quincemil, 19 July — 1 male; Silvera River, 29 July — 1 male.

The known range of this bat is British Guiana, Ecuador, and Rio Jurua, Brazil and is now extended to southern Peru.

The dates seems to indicate that this bat is a resident in the region. The specimens were taken "in leaves".

**Measurements.**—Forearm 34.0 mm. Skull: greatest length 18.2 mm.; condylo-basal length 16.8; interorbital width 4.6; zygomatic width 10.5; mastoid width 9.2; width of brain case 7.0; upper tooth row 6.4; across outer edges of canines 3.9; across outer edges of last molars 7.3.

#### ***Desmodus rotundus rotundus* (Geoffroy)**

*Phyllostoma rotunda* Geoffroy, 1810, Ann. Mus. Hist. Nat., Paris, vol. 15, pp. 181-186.

**Specimens examined.**—Hacienda Cadena, 2, 13, and 16 May 1949 — 3 males; March, June, Sept. 1950 — 4 males (2 alc.), 1 female.

#### ***Thyroptera tricolor tricolor* (Spix)**

*Thyroptera tricolor* Spix, 1823, Simiar. et Vespert. Brésil, p. 61 pl. 36, fig. 9.

**Specimens examined.**—Hacienda Cadena, 8 Dec. 1948, 24 Jan., 9 and 28 Dec. 1949 — 5 males, 3 females; March, May and Aug. 1950 — 6 males, 8 females; Balceadero, 14 Dec. 1948 — 2 males; Huajyumbé, 23 July 1950 — 3 males (1 alc.), 3 females (2 alc.).

This is the first record for this bat in Peru. It has been recorded from Brazil, British Guiana, Ecuador, and Trinidad. The forearms measure from 27.3 mm. to 29.5 mm. A dark bellied species, *T. discifera* has been taken in Iquitos and at Cumeria on the Rio Ucayali.

**Myotis nigricans nigricans (Wied)**

*Vespertilio nigricans* Wied, 1826, Beiträge z. Naturg. Brasil, vol. 2, p. 266.

**Specimens examined.**—Balceadero, 25 Oct. 1949 — 1 subadult male; Hacienda Cadena, 19 Dec. 1949 — 1 female, 1-3 March 1950 — 3 males, 24 Aug. 1950 — 2 males, 2 females; Quincemil, 30 June 1950 — 2 males, 4 females (all alc.)

Some of these specimens are very dark colored for the species being almost melanistic. The forearms measure 33.9-38.6 mm.

**Myotis chiloensis oxyotus (Peters)**

*Vespertilio oxyotus* Peters, 1866, Monatsber. Akad. Wiss. Berlin, p. 19.

**Specimens examined.**—Hacienda Cadena, 19 and 23 Feb. 1949 — 1 male, 1 female.

The type locality of this race is Mount Chimborazo, Ecuador at 9,000 to 10,000 feet altitude and it ranges south through Peru. Chicago Natural History Museum has three specimens from Ambo, Peru and one from near Balsas. It has been recorded from many other localities in the country.

These two specimens are in fresh pelage, very dark and with long burnished tips on the hairs of the back. They are much darker than specimens from Ambó, taken in worn pelage in August. There is a great difference in color depending on the season and the locality. The forearms measure 39.5 and 40.8 mm.

**Myotis albescens (Geoffroy)**

*Vesp[ertilio] albescens* E. Geoffroy, 1806, Ann. Mus. d'Hist. Nat. Paris, vol. 8, p. 204.

**Specimens examined.**—Hacienda Cadena, 9 March, 13 June 1950 — 1 female, 1 male; Quincemil, 19-25 June 1950 — 4 males (2 alc.), 9 females (5 alc.)

The light colored hairs on the edges of the abdomen and the

longer narrower tragus distinguish this species from *nigricans*. The forearms of this series measure 36.1-39.6 mm.

### *Histiotus montanus inambarus* (Anthony)

*Histiotus inambarus* Anthony, 1920, Journ. Mamm., vol. 1, p. 85.

**Specimens examined.**—Hacienda Cadena, 20 April, 6 and 7 May 1949 — 1 subadult male, 5 females (2 subadult), 17 June, 7 Sept. 1950 — 2 males, 2 females; Quincemil, 20-25 June 1950 — 1 juv. male, 9 females (6 alc.), 5 young.

The type locality is given as Rio Inambari, 70° 15' W, 13° 55' S which is the position of the settlement of Segrario, on the Rio Quiton, about two hours on foot to the Rio Inambari.

In the original description *inambarus* was compared with *macrotus* which was said to have an ear length of 26.3 mm. but as the ear in *macrotus* measures from 31-37 mm. the specimen must have been *montanus*. The measurements of these specimens of *inambarus* fall within those known for *montanus*.

Hacienda Cadena is about 70 miles northwest of the type locality, Segrario, at about the same altitude with the same climatic conditions. These specimens are considered *inambarus* though darker than the description of the type being near Bister of Ridgway above and near Tawny Olive Ridgway below, bases of hairs Mummy Brown with Tawny Olive tips.

They are closely matched in color by examples from south central Chile which are intermediate in color between the very dark *Histiotus montanus magellanicus* from Chiloe Island and the typical light colored *montanus* from Santiago. The line of contrasting light colored hairs at the base of the ears, typical of *montanus* is not present in these specimens of *inambarus*.

The skulls are shorter and narrower than skulls of *H. montanus* and *magellanicus* from Uruguay and Chile.

**Measurements.**—Forearm 45.5-49.5 mm.; ear (dampened) 24.0-26.0 mm. Skull: greatest length 16.0-18.8 mm.; condylo-basal length 16.7; palatal length 6.9-7.0; interorbital width 4.0-4.2; zygomatic width 9.7-10.0; mastoid width 8.5-8.7; width of

brain case 7.9-8.0; upper tooth row 5.8-6.0; across base of canines externally 4.9-5.0; across last molars, externally 6.5-6.6.

**Lasiurus bonariensis** (Lesson and Garnot)

*Vespertilio bonariensis* Lesson and Garnot, 1826, Voy. Coquille, Zool., vol. 1, pt. 1, pp. 137-139, pl. 2, fig. 1.

**Specimens examined.**—Hacienda Cadena, 7 August 1950 — 1 female.

*Lasiurus varius* J. A. Allen, 1901, Bull. Amer. Mus. Nat. Hist., vol. 14, p. 46, Santo Domingo Mine, Dept. Puno, Peru.

*Lasiurus borealis* Thomas, 1926, Ann. Mag. Nat. Hist., ser. 9, vol. 18, p. 157 — Condechaca, Prov. Chachapoyas, Dept. Amazonas, Peru.

There are few recorded specimens of this bat in Peru. The lack of material has made it impossible to clear up the synonymy and to make certain just which race occurs in Peru. The forearm of the present specimen is 40.7 mm.

**Tadarida brasiliensis** (Geoffroy)

*Nyctinomus brasiliensis* Geoffroy, 1824, Ann. Sci. Nat., vol. 1, p. 343.

**Specimens examined.**—Hacienda Cadena, Aug., Sept. 1950 — 3 males, 13 females (3 alc.); Quincemil, 23 June 1950 — 1 male, 1 female.

This very common South American bat has been recorded from Surco, Dept. of Lima, Santa Ana and Macchu Picchu, Dept. of Cuzco. The Chicago Natural History Museum has specimens from Lima; Prov. La Mar, Ayacucho; Ambo, Huanuco; and Oconeque and Santo Domingo, Puno.

**Tadarida molosa** (Pallas)

*V[espertilio] molossus* Pallas, 1766, Miscellanea Zoologica, p. 49; Spicilegia Zoologica, fasc. 3, p. 8, pl. 4, fig. 11 (skull) 1767.

*Nyctinomus molossus* Miller, 1913, Proc. U. S. Nat. Mus.,  
vol. 46, p. 86.

*Tadarida macrotis* Shamel, 1931, Proc. U. S. Nat. Mus., vol.  
78, p. 15.

*Tadarida molossa* Hershkovitz, 1949, Proc. U. S. Nat. Mus.,  
vol. 99, p. 452.

**Specimens examined.**—Huajyumbe, 24 July, 25 Sept. 1950 — 5 males (1  
alc.), 9 females (2 alc.)

This species has been recorded from Colombia, Ecuador, Pa-  
raguay, and Brazil in South America but less than ten specimens  
are known. It is more plentiful in the West Indies. This series from  
Peru was taken from a colony "in a cave".

**Measurements.**—Forearm 55.5 mm. - 63.6 mm. Skull: greatest  
length 22.3-24.7 mm.; condylo-basal length 20.7-23.0; palatal  
length 9.4-10.2; rostral width 5.5-6.4; interorbital width 3.9-4.4;  
zygomatic width 11.6-13.0; mastoid width 10.9-11.9; width of  
brain case 9.8-10.6; upper tooth row 8.5-9.3; width across outer  
edges of upper canines 4.6-5.3; width across outer edges of upper  
molars 7.8-9.0.

### *Tadarida similis* Sanborn

*Tadarida similis* Sanborn, 1941, Field Mus. Nat. Hist., Zool.  
Ser., vol. 27, p. 386.

**Specimens examined.**—Huajyumbe, 25 Sept. 1950 — 1 female.

*T. similis* was described on one specimen from Bogota, Colom-  
bia and differed from *T. aurispinosa* of Brazil in color. *T. similis* is  
grayish brown, *aurispinosa* between wood brown and russet.

This Peruvian specimen is Mummy Brown (Ridgway, 1912)  
above and slightly paler below. The external dimensions agree  
closely with *similis* and the skull is almost exactly the same as the  
type. The one known specimen of *aurispinosa* has no skull.

The type of *aurispinosa* was taken "on board the U.S.S.  
Peacock of the coast of Brazil. On the 18th of November when the

ship was about 100 miles from land, south of Cape St. Roque". The type of *similis* came from Bogota, which would seem to be a high altitude for a tropical bat. This individual was taken in a cave with three *Tadarida molossa*. While it seems highly probable that *similis* could be a synonym of *aurispinosa* the name is being retained until further specimens of *aurispinosa* are collected so that skulls of the two species may be compared.

*Measurements.*—Total length 119 mm., tail 44.0; hind foot 13.0; ear 29; forearm 51.5. Skull: greatest length 20.8 mm.; condylo-basal length 18.8; palatal length 8.5; rostral width 5.5; interorbital width 3.5; zygomatic width 11.6; mastoid width 10.9; width of brain case 9.5; upper tooth row 7.8; width across outer edges of canines 4.9; width across outer edges of molars 8.4.

#### ***Molossus rufus* Geoffroy**

*Molossus rufus* Geoffroy, 1895, Ann. Mus. Hist. Nat., Paris, vol. 6, p. 155.

*Molossus myosuroides* Tschudi, 1844-46, Fauna Peruana, Mamm., p. 83.

*Specimens examined.*—Huajyumbé, 16-17 Sept. 1950 — 3 males, 14 females (7 alc.)

Tschudi's *M. myosuroides* appears to be the only published record of the occurrence of this bat in Peru. The Chicago Natural History Museum has one specimen taken at Tingo Maria, Dept. Huanuco. *M. rufus* has been recorded from British and Dutch Guiana, Venezuela, Paraguay, Brazil and Argentina. This large series from Peru was taken from a "tree hole". The forearms range from 49.0 mm. to 53.0 mm. in length.

#### ***Molossus obscurus obscurus* Geoffroy**

*Molossus obscurus* E. Geoffroy-St. Hilaire, 1805, Bull. Soc. Philom., Paris, vol. 3, p. 279.

*Specimens examined.*—Hacienda Cadena, 23 Jan. 1949 — 2 females; 27 Nov.



1949 — 2 females; March, August, September 1950 — 6 males, 4 females; Quincemil, 1 July 1950 — 2 males.

***Aotus trivigatus nigriceps* (Dollman)**

*Aotus nigriceps* Dollman, 1909, Ann. Mag. Nat. Hist., ser. 8, vol. 4, p. 200 — Type locality, Chanchamayo, Prov. Tarma, Dept. Junin, Peru.

**Specimens examined.**—Balceadero, 16 Nov. 1949 — 1 female; Hacienda Cadena, 13 March 1950 — 1 male; Quincemil, 16 July 1950 — 1 male, 1 female.

The pair from Quincemil are much darker than the other two specimens and darker than any from central and southern Peru in the collections of Chicago Natural History Museum. This may be a transition area where *trivigatus*, *nigriceps* and *boliviensis* meet.

***Cebus apella macrocephalus* (Spix)**

*Cebus macrocephalus* Spix, 1823, Sim. Vesp. Bras., pp. 3-4.

**Specimens examined.**—Hacienda Cadena, 20 Dec. 1949 — 1 male.

***Saimiri sciureus nigriceps* (Thomas)**

*Saimiri boliviensis nigriceps* Thomas, 1902, Ann. Mag. Nat. Hist., ser. 7, vol. 10, p. 246 — Type locality, Cosnipata, Cuzco, Peru.

**Specimens examined.**—Quincemil, 19 June 1950 — 1 female.

This individual is very brightly colored being much more reddish than series from the Ucayali River.

***Lagothrix lagotricha* (Humboldt)**

*Simia lagotricha* Humboldt, 1812, Rec. Obs. Zool. Anat. Comp., vol. 1, pp. 321-322, 354.

**Specimens examined.**—Hacienda Cadena, 26 Feb. 1950 — 1 male.

**Marikina weddelli** (Deville)

*Midas weddelli* Deville, 1849, Rev. Mag. Zool., ser. 2, vol. 1, p. 55.

Specimens examined.—Hacienda Cadena, 8 Jan. 1949 — 1 male, 1 female.

The type locality of this species is given as Province of Apolobamba, Bolivia which is north of Lake Titicaca on the Peruvian border. This appears to be the first record for Peru.

**Sciurus ignitus ignitus** (Gray)

*Macroxus ignitus* Gray, 1867, Ann. Mag. Nat. Hist., ser. 3, vol. 20, p. 429 — Type locality, Yungas, Upper Rio Beni, Bolivia.

*Sciurus aestuans cuscinus* Thomas, 1899, Ann. Mag. Nat. Hist., ser. 7, vol. 11, p. 40 — Type locality, Ocabamba, Cuzco, Peru.

*Sciurus ochrescens* Thomas, 1914, Ann. Mag. Nat. Hist., ser. 8, vol. 13, p. 362 — Type locality, Astillero, Upper Beni River, Bolivia.

**Sciurus ignitus irroratus** (Gray)

*Macroxus irroratus* Gray, 1867, Ann. Mag. Nat. Hist., ser. 3, vol. 20, p. 431 — Type locality, Upper Rio Ucayali (probably Sarayacu, Loreto), Peru.

**Sciurus ignitus boliviensis** (Osgood)

*Macroxus leucogaster* Gray, 1867, Ann. Mag. Nat. Hist., ser. 3, vol. 20, p. 430 — Type locality, Santa Cruz de la Sierra, Bolivia.

*Sciurus boliviensis* Osgood, 1921, Journ. Mamm., vol. 2, p. 39 — renaming of *leucogaster* Gray, preoccupied.

This species is known from Sarayacu, on the Ucayali River,

south to Santa Cruz de la Sierra, Bolivia. In Peru specimens have been taken in Chanchamayo, Junin; Pucallpa, Loreto; Agua Caliente and Pozuzo, Huanuco; Ocabamba, Hacienda Cadena, Quincemil, and Huajyumbé, Cuzco.

The subspecies have been differentiated mainly on the color of the under parts which vary from light yellow to deep yellow in *ignitus*, lighter in *irroratus* and white or nearly white in *boliviensis*. The upper parts have been described as about the same in all three. In the two other races described by Thomas, *cuscinus* has the under parts Antimony Yellow and *ochrescens* Ochraceous Buff or Ochraceous Orange.

The Peruvian series of these squirrels in the Chicago Natural History Museum show very great variation but many more specimens and topotypes will be needed before these can be adequately explained and the ranges of subspecies determined. The color differences are described here as an aid to future workers but many specimens can not be referred to any geographic race.

From Yarinacocha, Loreto, Rio Ucayali are four males taken in April and June here referred to *irroratus*. The general tone of the dorsal surface is brown, the under parts are dull with a faint tinge of ochraceous. Farther south at Agua Caliente, Huanuco, on the Rio Pachitea is a female taken in April with brown upper parts but the under parts are much lighter, near Light Ochraceous Salmon of Ridgway. A male and two females from Pozuzo, Huanuco taken in January are very dark, the upper parts being blackish brown and the under parts in one female being but little lighter than Ferruginous. The other two are paler below. A male from Tingo Maria, October, is very like these but lighter the under side with more yellow.

Sr. José M. Schunke collected eight squirrels at Chanchamayo, Junin, in May, June, and July that are a gray-brown above and near Light Ochraceous Buff below. The under parts are very much like those in *boliviensis* but the dorsal surface is much darker being grayer and not brown. These may represent a new race, but its description is being delayed until specimens taken in December and January are available for comparison.

Sr. Kalinowski has sent from Hacienda Cadena five males and three females taken in June, August, September, November and

December, and three males and four females collected at Quincemil in June and July. These show no seasonal difference in color. The upper parts are Blackish Brown (1) Ridgway and the under parts vary from yellow, through buff, and salmon to Orange Rufous. Although the upper parts are very dark, these are referred to *ignitus* until they can be compared with topotypes.

At Huajyumbé, Sr. Kalinowski collected two squirrels, one in October like his series of *ignitus* and one in July that is as dark above as *ignitus* but differs greatly in the color of the under parts. The hairs here are slate gray at the base with grayish white tips. The under side of the arms and legs and the chin are colored like the upper parts (Blackish Brown) while in *ignitus* the color of the belly extends on to the arms, legs, and chin. The tail is darker with buffy gray tips to the hairs instead of reddish brown. On the basis of but one specimen no conclusion can be reached as to the identification.

From Bolivia the Museum has four specimens from Chapare, Cochabamba representing *ignitus* but not considered typical, and six specimens from the highlands identified as *boliviensis*.

It is believed that the varieties of color are not seasonal but are climatic. Until it is known just how these grade on into another or what the barriers are that separate them, it would not be wise to give names to all these variations.

### *Oryzomys longicaudatus destructor* (Tschudi)

*Hesperomys destructor* Tschudi, 1844, Fauna Peruana, p. 182.

Specimens examined.—Hacienda Cadena, 13-20 Nov. 1948 — 7 males, 2 females; 6 May 1949, 7-14 Dec. 1949 — 2 males, 1 female; Feb., June, Aug., Sept. 1950 — 8 males, 1 female.

### *Oryzomys laticeps nitidus* (Thomas)

*Hesperomys laticeps* var. *nitidus* Thomas, 1884, Proc. Zool., Soc. London, p. 452.

Specimens examined.—Hacienda Cadena, 16 Feb., 13 May, 27 Aug., 17

Oct., 7 Dec., 17 Dec 1949 — 4 males, 2 females; March, Aug. 1950 — 3 males, 2 females.

This series shows considerable color variation three being brown above with white bellies, one brown above with a gray belly, and two blackish above with dark gray bellies.

### *Oryzomys keaysi* (Allen)

*Oryzomys keaysi* J. A. Allén, 1900, Bull. Amer. Mus. Nat. Hist., vol. 13, p. 225 — Type locality, Santo Domingo Mine, Puno, Peru.

**Specimens examined.**—Camante, 1 Sept. 1950 — 2 males.

This large *Oryzomys* ranges through southeastern Peru and into the Yungas of Bolivia.

### *Oryzomys (Oecomys) superans* Thomas

*Oecomys superans* Thomas, 1911, Ann. Mag. Nat. Hist., ser. 8, vol. 8, p. 250 — Type locality, Canelos, Rio Bobonazo, Oriente of Ecuador.

**Specimens examined.**—Quincemil, 12 July 1950 — 1 female.

This individual appears closer to *superans* than to *mamarae* Thomas from northeast Bolivia. Its dorsal color agrees with *superans* but the under parts are light gray instead of buffy. The skull shows no differences from that of *superans*.

### *Oryzomys (Oecomys) phaeotis* Thomas

*Rhipidomys phaeotis* Thomas, 1901, Ann. Mag. Nat. Hist., ser. 7, vol. 7, p. 181 — Type locality, Segrario, Puno, Peru.

**Specimens examined.**—Camante, 31 Aug. 1950 — 1 male, 1 female.

These specimens agree closely in size with the dimensions given

for *phaeotis* but have less rufous than ascribed to that species. They are the first ones recorded since the description of the type.

### *Nectomys squamipes garleppii* (Thomas)

*Nectomys Garleppii* Thomas, 1899, Ann. Mag. Nat. Hist., ser. 7, vol. 3, p. 41.

*Nectomys squamipes garleppii* Hershkovitz, 1944, Mus. Zool., Univ. Michigan, Misc. Pubs., N° 58, p. 59.

**Specimens examined.**—Hacienda Cadena, 13-24 Nov. 1948, 6, 13 May, 23 Nov., 1 Dec. 1949 — 4 males, 7 females, 3 juv., Feb., March, Aug. 1950 — 4 males, 1 female; Balceadero, 26 May 1949 — 1 juv. male, 1 female; Quincemil, 12-17 July 1950 — 1 male, 1 female; Camante, 1 Sept. 1950 — 1 male.

The range of this water rat is from Junin south through eastern Cuzco and Puno to the state of La Paz and Cochabamba, Bolivia. The species is found throughout eastern Peru represented by the subspecies *apicalis*, *montanus*, *melanius*, and *vallensis*.

### *Rhipidomys leucodactylus* Tschudi

*Rhipidomys leucodactylus* Tschudi, 1844, Fauna Peruana, vol. 1, p. 183.

**Specimens examined.**—Hacienda Cadena, 3 Dec. 1949 — 3 males; March, August, September 1950 — 2 males (1 alc.), 5 females; Camante, 1 Sept. 1950 — 1 male, 1 female.

This short-footed, long-tailed climbing rat is also found in Huanuco and Loreto.

### *Akodon aerosus aerosus* Thomas

*Akodon aerosus* Thomas, 1913, Ann. Mag. Nat. Hist., ser. 8, vol. 11, p. 406.

**Specimens examined.**—Hacienda Cadena, 13 Jan., 10 Sept. and 17 Dec. 1949 — 1 male, 2 females; 13 March, 5-29 Aug. 1950 — 4 males, 4 females; Camante, 2 Sept. 1950 — 1 female.

A large dark *Akodon*, described from Ecuador, and ranging through eastern Peru to Bolivia.

***Oxymycterus juliacae* (Allen)**

*Oxymycterus juliacae* Allen, 1900, Bull. Amer. Mus. Nat. Hist., vol. 13, p. 223; Thomas, 1901, Ann. Mag. Nat. Hist., ser. 7, vol. 7, p. 189 — Rio Inambari; Osgood, 1944, Field Mus. Nat. Hist., Zool. Ser., vol. 29, p. 198 — Segrario.

**Specimens examined.**—Hacienda Cadena, 16 Feb., 9-12 Sept., 30 Nov. 1949 — 2 males, 2 females; 11 March, 9 Aug. 1950 — 2 females.

Previously known from the Inambari River region only, these specimens represent an extension of range to the north.

***Dinomys branickii* Peters,**

*Dinomys branickii* Peters, 1873, Monatsber. Akad. Wiss. Berlin, pp. 551-552.

A pair of subadult individuals captured at Hacienda Cadena was sent to the Chicago Zoological Society Zoo. These later died and were presented to the Chicago Natural History Museum.

***Hydrochoerus hydrochaeris hydrochaeris* (Linnaeus)**

*Sus hydrochaeris* Linnaeus, 1766, Syst. Nat., ed. 12, vol. 1, p. 103.

**Specimens examined.**—Marcapata River, 7 July 1950 — 1 subadult male.

The occurrence of the Capybara is not unexpected in Peru but no published record for it has been found. The color of this individual is much lighter than that of specimens from Brazil and this may be due, in part, to its immaturity.

***Dactylomys boliviensis* Anthony**

*Dactylomys boliviensis* Anthony, 1920, Journ. Mamm., vol. 1, p. 82, figs. 1-4.

**Specimens examined.**—Quincemil, 23 Nov. 1948 — 2 males, 5 females, 1 subadult female; 21 June, 3-11 July 1950 — 4 males (1 skel.), 4 females.

The type locality of this species is Mission San Antonio, Rio Chimore, Province of Cochabamba, Bolivia and the type has been the only specimen known. Dr. G. H. H. Tate of the American Museum of Natural History has compared two of the specimens from Quincemil with the type. The type lacks the black dorsal area (except on the head and a trace on the neck) so pronounced in the Peruvian specimens but this is attributable to moult. The skull of the female exactly matches that of the type.

***Sylvilagus brasiliensis inca* Thomas**

*Sylvilagus brasiliensis inca* Thomas, 1913, Ann. Mag. Nat. Hist., ser. 8, vol. 11, p. 210.

**Specimens examined.**—Hacienda Cadena, 12 Nov. 1948 — 2 males, 23 Feb.-6 March 1950 — 2 males, 5 females; Balceadero, 1<sup>o</sup> Nov. 1949 — 1 male; Quincemil, 29 June 1950 — 1 female.

These specimens are topotypes and were collected by the son of the man who collected the type forty-five years ago. The only other locality from which this race has been recorded is Condamo, Rio Tambopata, Department of Puno.

The other races that occur in Peru are, *Sylvilagus brasiliensis peruanus* Hershkovitz from Tingo Maria, Huanuco north through San Martin and Amazonas, and *S. b. capsalis* Thomas found in Cajamarca and La Libertad.

***Felis pardalis aequatorialis* (Mearns)**

*Felis aequatorialis* Mearns, 1902, Proc. U. S. Nat. Mus., vol. 25, p. 246.

*Leopardus pardalis aequatorialis* Pocock, 1941, Field Mus. Nat. Hist., Zool. Ser., vol. 27, p. 333.

**Specimens examined.**—Quincemil, 4 July 1950 — 1 female.



**Lutra incarum** Thomas

*Lutra incarum* Thomas, 1908, Ann. Mag. Nat. Hist., ser. 8, vol. 1, p. 392.

**Specimens examined.**—Marcapata River, 7 July 1950 — 1 female; Huajyumbé, 26 July 1950 — 1 female.

The type of this species came from Marcapata and was probably collected by the elder Kalinowski. The type is young and the only measurement of the skull given in the original description is the length of premolar four, 12.4 mm. Thomas referred other specimens from Eten on the northern coast to this species which seems an unusual thing considering the great distance and the very different type of country from Marcapata. These two females are the first to be recorded since the description of the type.

**Measurements.**—Total length 988-993 mm.; tail 375-393; hind foot 104-105. Skull: greatest length 105.8-112.6 mm.; condylo-basal length 103.4-112.4; palatal length 44.6-44.9; interorbital width 20.6-20.8; intertemporal width 15.1-18.3; zygomatic width 67.3-68.4; mastoid width 61.3-61.6; width of brain case 56.0-56.3; upper tooth row 34.5-34.5; width across bases of canines, externally 23.4-24.2; width across pm<sup>4</sup> externally 35.8-37.2; length of pm<sup>4</sup> worn 12.0, little wear 13.2.

**Eira barbara peruana** (Nehring)

*Galictis barbara* var. *peruana* Nehring, 1886, Zool. Jahrb. Syst. Geog. Biol., vol. 1, p. 186.

**Specimens examined.**—Hacienda Cadena, 23 Dec. 1949 — 2 males.

**Mazama** sp.

**Specimens examined.**—Tio, 2,000 met., 1950 — 1 skin only (purchased from Indian).

This individual represents either *Mazama americana whitelyi* or *M. tschudii*.

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