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Descriptions of Some New Mammals

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MOLOSSID BAT

In a collection of 80 bats recently received from Arthur M. Greenhall, Curator of the Royal Victoria Institute Museum and Zoologist for the Department of Agriculture, Trinidad, are five species of free-tailed bats including: three *Promops centralis*, one *Tadarida europis*, 50 *Molossus r. rufus*, 13 *Molossus m. major*, and three *Molossus* with bicolored pelage which appear to be an unnamed form of the *M. sinaloae* group and which is here described as a new species.

Molossus trinitatus, new species

Figure 1

TYPE: A.M.N.H. No. 179987, skin and skull, subadult male, Belmont, Port of Spain, Trinidad, British West Indies; collectors H. Cassel and R. Persad of the Public Health Department, City of Port of Spain, Trinidad; original no. 58-3447; October 18, 1958. The type skin is in good condition and was prepared from a spirit specimen shortly after it was collected; the skull is complete, with teeth showing some wear. Besides the type there are an adult male topotype and a young male from San Fernando, Trinidad, both with incomplete skulls.

DIAGNOSIS: A moderately large-sized, free-tailed bat, total length 125 mm., distinguishable from all other named species in the genus *Molossus* by the combined characters of large size, extension of fur on interfemoral membrane, long bicolored pelage, long narrow braincase, nearly parallel maxillary tooth rows, and large, deep, well-defined basisphenoid pits.

DESCRIPTION OF TYPE: Fur long, soft, and lax, extending on upper

side of interfemoral membrane from base for one-third of its length and reaching a length of 6.5 mm. on shoulders; color of upper parts dark Mummy Brown,¹ the fur white from base for two-thirds of its length; under parts Mummy Brown, base of fur whitish. Skull long and slender, with a relatively narrow braincase, long narrow rostrum; sagittal and occipital crests low and weakly developed; basisphenoid pits large and strongly developed; posterior border of bony palate squared across without any indication of a posterior median projection; molariform tooth rows nearly parallel and only slightly divergent posteriorly; upper incisors relatively long and slender; anterior upper premolar large.

MEASUREMENTS OF TYPE: Total length, 125.0 mm.; length of tail, 52.0; hind foot, 10.5 forearm, 49.3; third metacarpal, 29.5, first phalanx, 23.4, second phalanx, 20.0; tibia, 17.5. Skull: greatest length, 22.0; condylobasal length (exclusive of incisors), 19.2; zygomatic breadth, 12.7;

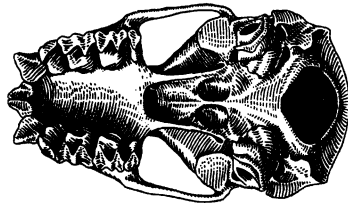


FIG. 1. *Molossus trinitatus*, type, A.M.N.H. No. 179989, ventral view of cranium. $\times 2$.

mastoid breadth, 12.0; interorbital breadth, 4.1; breadth of braincase, 9.7; maxillary tooth row, C-M³, 7.9, alveoli, 7.7; breadth across canines, 5.5; breadth across M²-M², 9.0; mandibular tooth row, 9.0. Weight: 19.3 grams.

COMPARISON: *Molossus trinitatus* needs close comparison only with *Molossus sinaloae* Allen from Sinaloa, Mexico. It resembles this species in having similar long, bicolored pelage, but the much larger size and relatively narrower skull of *trinitatus* eliminate the possibility of close relationship with the Mexican species: forearm, 49.3 mm. in *trinitatus* as compared with 43.5 mm. in *sinaloae*; greatest length of skull, 22.0 as against 20.0; and maxillary tooth row, 7.9 as compared with 7.3. Miller and Kellogg (1955, p. 119) followed G. M. Allen (1935, p. 228) in regarding *sinaloae* a subspecies of *rufus* Geoffroy. *Molossus sinaloae* is a medium-sized species and distinct from the much larger species,

¹ Capitalized color terms are from Ridgway (1912).

rufus, and, as pointed out by de la Torre (1955, p. 701), can always be separated from *M. rufus* on absolute characters. *Molossus trinitatus* needs no close comparison with *M. rufus rufus*, a larger species with short, velvety, unicolored fur, massive, broad skull with widely spreading maxillary tooth rows, and strongly developed sagittal and occipital crests. *Molossus trinitatus* differs from *Molossus pretiosus* in much the same way as it does from *rufus*, though the difference in size is not quite so great. Cabrera (1957, p. 132) lists *pretiosus* in synonymy under *M. rufus* without giving any specific reason for not recognizing Miller's species. Topotypes of *pretiosus* in the American Museum of Natural History collections do not conclusively bear out Cabrera's inference.

REMARKS: *Molossus trinitatus* is unique in that it is not closely related to any species known to occur in South America. It appears to be a rare bat, and its long pelage indicates that it may roost, as does *M. sinaloae*, under the fronds of palm trees. The type was taken in an inhabited house.

WATER MOUSE

Continued efforts of Thomas MacDougall to obtain specimens of a fish-eating water mouse reported by fishermen in southern Oaxaca have finally met with success. Only one very young individual was taken in 1957, but in 1958 MacDougall had the good fortune to secure an adult male, a full-grown female, and a native-collected flat skin. These four specimens show characters so markedly different from the *Rheomys* known to occur in Central America that they not only represent a very distinct new species but apparently belong in a separate subgeneric group, as is described below.

Acknowledgment is due Dr. William H. Burt of the University of Michigan for the loan of comparative material.

NEORHEOMYS, NEW SUBGENUS

DIAGNOSIS: Size large, total length, 281–320 mm., tail, 155–160, longer than head and body; nasal pad divided by a deep longitudinal groove between nostrils, muzzle below nostrils complete, without median groove; external ears very small, concealed in fur; hind feet very large and broad, length of hind foot, 39.5–40.5. Pelage long and relatively coarse. Skull smoothly rounded but more angular than in species of typical *Rheomys*, with profile straighter and less compressed in interorbital region, anterorbital foramina more widely open than in typical forms. Upper incisors very long, narrow, and slender, the front

surfaces slanting strongly inward so that the faces of the two teeth form a V in horizontal section; the cutting edge with outer corners projecting downward in sharp divergent points. Molars as in typical *Rheomys* but much larger. In typical *Rheomys* the upper incisors are normal and the front surface of the two teeth are in line in horizontal section.

***Rheomys* (*Neorheomys*) *mexicanus*, new species**

Figures 2-5

TYPE: A.M.N.H. No. 179970, skin and skull, adult female, San Jose Lachiguri, District of Miahuatlan, Oaxaca, Mexico, altitude 4000 feet; collector, Thomas MacDougall; May 15, 1958. The type skin was prepared by the author from a specimen preserved in spirits and has lost some fur on the sides of the body; the skull is complete, with teeth showing considerable wear.

Beside the type there are an adult male with a damaged skull, the skin of a male without skull, and an immature male with the last molar tooth only partly exposed, all from the type locality.

GENERAL CHARACTERS: Size large, color light brownish, tail sharply bicolored; hind feet very large, whitish, with a fringe of long, stiff, white hairs along sides of feet and toes; claws on the hind feet large, short, and rather blunt; forefeet small; head broad, with very heavy lips; ears small and concealed in fur; vibrissae short and stiff; a single pair of mammae in inguinal region; subcutaneous muscles strongly developed. Except for the long tail, large feet, and small ears, *Rheomys mexicanus* bears a superficial resemblance in external appearance to the soft-furred cotton rat, *Sigmodon macdougali*, of southern Oaxaca.

DESCRIPTION OF TYPE: Pelage long and lax; under fur long, thick, and woolly; color of upper parts Ochraceous Tawny, darkest on rump and becoming slightly paler on shoulders and sides of body, the hair Deep Mouse Gray from base for about half of its length, terminal half Ochraceous Tawny; the hair on back lightly mixed with slightly longer, blackish guard hairs and with longer whitish guard hairs on lower rump; upper side of head more dusky than back owing to the shortening of the Ochraceous Tawny tips of the hairs; under side of muzzle, cheeks, and lips Mouse Gray; under parts, including under sides of fore and hind limbs, Light Buff, concealing the Deep Mouse Gray basal color of the fur; upper sides of hind feet to ankles sparsely covered with Light Buff, almost white hairs, the skin pinkish white before skinning, under side of feet and toes naked, Mummy Brown; upper side of forefeet dusky to base of toes, toes whitish, soles of forefeet flesh colored; tail Mummy Brown above, white below to roots of

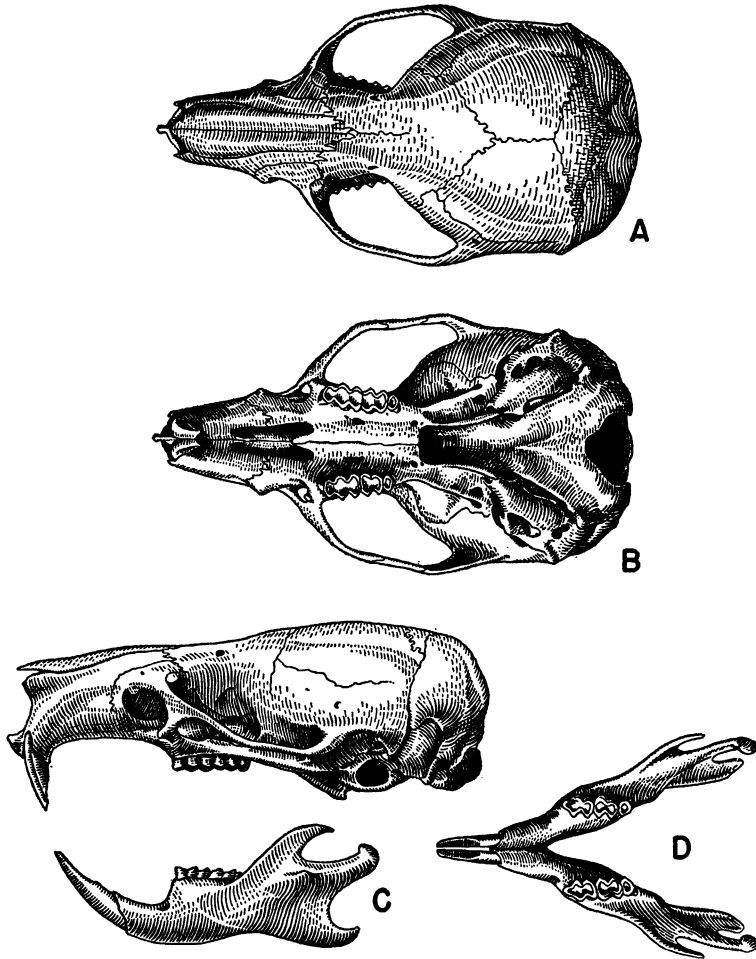


FIG. 2. *Rheomys (Neorheomys) mexicanus*, type, A.M.N.H. 179970. A. Dorsal view. B. Ventral view. C. Lateral view. D. Mandible. All $\times 2$.

hair, the line of demarcation sharply defined, the hair on under side of tail longer than on upper side, extreme tip of tail white all round. Skull large and low, slightly depressed in interorbital region; braincase large, low, and broad; nasals terminating posteriorly on a line with the posterior border of premaxillaries and strongly depressed along median line; maxillary branch of the zygomatic plate narrow; anterior palatine foramina broad, widest posteriorly and ending posteriorly on a line across the anterior border of front molars; bullae small and flattened; incisors both above and below long, slender, and very narrow

and white in color, lower incisors pointed; anterior face of upper incisors flattened and slanting backward to inner margin; first two upper molar teeth large and broad, with deep reëntrant folds, the last upper molar relatively small.

MEASUREMENTS OF TYPE AND ADULT MALE PARATYPE: (Measurements of the type of *R. t. stirtoni* in parentheses). Total length, 300 mm., 281 (253); length of tail, 160, 160 (120); hind foot, including claws, 40.5, 39.5 (32.0). Skull: greatest length, 32.0, 30.5 (29.4); condylo-basal length to front of anterior extension of premaxillary, 31.6, — (—); basilar length, 25.6, — (23.5); zygomatic breadth, 16.5, — (15.3); interorbital breadth, 5.4, 5.2 (5.1); breadth of braincase over mastoids, 14.6, — (14.3); width of zygomatic plate, 11.0, 12.0 (12.0); length of palatine foramina, 5.8, 5.6 (5.3), length of palatal bridge, 6.9, 6.7 (5.9); width of palate across M^1 - M^1 , 7.2, 7.0 (6.2); breadth across upper incisors, 1.3, 1.4 (1.6); transverse diameter of M^1 , 1.6, 1.65 (1.5); alveolar length of maxillary tooth row, 5.0, 5.2 (4.7).

COMPARISON: *Rheomys mexicanus* is quite distinct from and needs no close comparison with either *Rheomys t. thomasi* or *R. t. stirtoni*. Besides being much larger than either of these two forms, as shown in the above measurements, *stirtoni* being larger than *thomasi*, the pelage of *mexicanus* is of a different texture, being long and lax instead of short and close, and of an entirely different color, Ochraceous Tawny instead of Prout's Brown or Mummy Brown; the tail is much longer and sharply bicolored instead of being nearly unicolored; the skull is also different in that the incisors are actually narrower even though the skull is much larger; and the interorbital region is also shorter, broader, and slightly more depressed. In general structure, however, the skull of *mexicanus* is not unlike that of *R. t. thomasi*. *Rheomys t. chiapensis* Hooper is described as being very similar in external characters to *R. t. thomasi* but larger and about the size of *R. t. stirtoni*, though the cranial measurements are slightly less than in the type of *stirtoni*.

REMARKS: The type was carrying two well-developed fetuses, and the stomach and intestinal tract contained a large assortment of legs, body casings, wings, and other parts of various kinds of beetles and other insects as well as insect larvae. There was no indication that these mice had fed on vegetable matter, mammal, amphibian, or fish. The type series was taken in a rather slow, rocky stream passing through dry cactus country with some stands of oak and pine. San Jose Lachiguiri, Oaxaca, is the northernmost locality where *Rheomys* has been recorded. This record is of particular significance, as it is

west of the Isthmus of Tehuantepec, which extends across the narrowed continent from the Atlantic to the Pacific coasts and which has an elevation that does not exceed 800 feet at any point.

RICE RAT

In a collection of 2000 specimens made by students of Walla Walla College under the direction of Ernest S. Booth during their 1957-1958 field trip to Mexico and Central America, there is a small, richly buff-colored rice rat of the *Oryzomys alfaroi* group. This specimen is decidedly paler in color and has a shorter tail than in any named form in the group, and as these differences are accompanied by marked cranial characters it is here recognized as a new subspecies.

Acknowledgment is due Dr. Stanley P. Young of the United States Fish and Wildlife Service for the loan of comparative material.

Oryzomys alfaroi agrestis, new subspecies

TYPE: A.M.N.H. No. 177146, skin and skull, adult male, 12 miles southeast of Tapachula, Chiapas, Mexico; altitude 1000 feet, collector, Carl Foyss, a student at Walla Walla College working under the supervision of Ernest S. Booth; original no. 690, January 13, 1958. The type skin is well made and in good condition; the skull is complete, with molar teeth showing considerable wear.

DIAGNOSIS: Palest of the North American forms of the *Oryzomys alfaroi* group; size small, tail shorter than length of head and body; ears large; pelage very short, close, light buffy in color, and only slightly darkened on dorsal area by blackish hairs. Skull small, short, and broad; nasals and premaxillae ending posteriorly in about the same plane; supra-orbital ridges well developed and extending across parietals to the squamosal suture, antorbital notch deep when viewed from above; outer wall of antorbital foramen with anterior border angular.

DESCRIPTION OF TYPE: Color of upper parts Cinnamon Buff darkened on middle of back and top of head with relatively few dark hairs; lower sides of body, cheeks, and a tuft of hairs at anterior base of ears clear Cinnamon Buff; under parts white, with a slight buffy tinge, base of hairs Plumbeous; forefeet white; hind feet white, with tufts of silvery white hairs at tip of toes, which extend to the ends of the claws but not beyond; tail indistinctly bicolored. Mummy Brown above, soiled whitish below; ears Mummy Brown, thinly covered with short, dark brown hairs; a small blackish spot on top of nose, tip of nose grizzled. Skull short and broad, with a broad palate and short

broad rostrum; zygomatic plate broad, its anterior margin at right angles to axis of skull and sloping slightly forward, the lateral upper margin angular and not rounded as in other forms of the *alfaroi* group, anterior palatine foramina normal for the species but somewhat shortened anteriorly; posterior palatine pits small; molariform teeth relatively large.

MEASUREMENTS OF TYPE: Total length, 250 mm. (probably 205); length of tail, 94.0; hind foot, 24.0; ear from notch, 16.0. Skull: greatest length, 26.2; zygomatic breadth, 13.4; interorbital breadth, 5.0; width of braincase over mastoids, 11.0; length of nasals, 10.6; anterior palatine foramina, 4.0; palatal bridge, 5.0; width across molars, 5.0; maxillary tooth row, 3.6.

COMPARISON: In *Oryzomys a. agrestis* the basic color of the pelage is Cinnamon Buff, which contrasts strongly with the various shades of Ochraceous Tawny predominant in all other North American forms in the *Oryzomys alfaroi* group. It is also the smallest and has the shortest tail of any in the group: total length, 205; length of tail, 94; hind foot, 24; as compared with the measurements of the following forms, respectively: *O. a. angusticeps*, 245, 134, 29; *O. a. rhabdops*, 225, 141, 29.5; *O. a. saturator*, 218, 120, 25.5; *O. a. hylocetes*, 217, 118, 27.

REMARKS: The type of *O. a. agrestis* was taken in the foothills bordering the Pacific coastal plains and at a lower elevation than other members of the group have been found in Mexico. According to the collector's field notes, it was taken in a dry region where there were grassy areas and weedy corn fields.

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