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NOTES ON MAMMALS FROM SONORA AND
CHIHUAHUA, MEXICO

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A SMALL collection of mammals, secured by Mr. Howard Scott Gentry in 1934-36 while he was engaged in a survey of the plants of the Río Mayo region of southeastern Sonora and southwestern Chihuahua, Mexico, has recently been purchased by the Museum of Zoology, University of Michigan. This is the first collection of mammals, to our knowledge, from this particular region. It is of interest chiefly because of the additional data it supplies on the distribution of some mammals. The specific localities where the specimens were obtained are: Carimechi, on the Chihuahua side of the Chihuahua-Sonora boundary near the Río Mayo; San Bernardo, also on the Río Mayo, but on the Sonora side of the boundary; and Los Tanques, Sonora, located fifteen miles north of Alamos on the road to San Bernardo.

All of these localities are within the Durangan Biotic Province as outlined by Burt (1938: 13, Map 1). Two of the species, *Didelphis mesamericana* and *Balantiopteryx plicata*, were recorded from the Sinaloa but not from the Durangan Biotic Province; two species, *Urocyon cinereoargenteus* and *Felis concolor*, and one race of a third species, *Neotoma mexicana madrensis*, were not recorded from Sonora by Burt

(1938). Only *Felis concolor* can be recorded definitely from Sonora at the present time, but the other two are from a place (Carimechi, Chihuahua) so near the Sonora-Chihuahua boundary that they certainly range into Sonora also. Brief accounts of the species represented in the Gentry collection are given below.

Didelphis mesamericana mesamericana.—A skull only was collected at Carimechi. The specimen is not sexed and apparently was found as a partial skeleton.

Balantiopteryx plicata.—Thirteen, four males and nine females, were taken on February 11 and March 3 in a cave near San Bernardo.

The length of the forearm, tibia, tooth row, greatest length of skull, and width of rostrum are each within the range of variation for the respective measurements given by Sanborn (1937: 351-52) for *plicata*. The characters mentioned by Martínez and Villa (1938: 339-43) in their description of *Balantiopteryx ochoterenai*, we find applicable to *plicata*. We have seen no specimen of *ochoterenai*, however.

Chilonycteris rubiginosa mexicana.—Ten, six males and four females, were collected on January 8 in a cave near Carimechi.

Aëlla megalophylla megalophylla.—Eleven, seven males and four females, were taken on January 8 near Carimechi in the same cave with the *Chilonycteris*. Of the ten skins at hand, nine are in the brown color phase and one in the rufous phase.

Glossophaga soricina leachii.—A young male was collected on February 11 in a cave near San Bernardo.

Leptonycteris nivalis.—Twenty-four, all males, were taken on January 4 in a cave in a canyon near Carimechi. In all but two the hair is worn off the back to expose an area of bare skin 10 to 15 mm. in diameter.

Nasua narica pallida.—Six were collected on days between December 16 and January 5 in the vicinity of Carimechi.

In *Nasua* there is considerable variation in the color of the pelage and, particularly, in the structure of the skull. Most of the variation apparently is attributable to differences in

age, sex, and individuals. We have before us forty-eight specimens from localities in Panama, Costa Rica, Salvador, Guatemala, Chiapas, Guerrero, British Honduras, Vera Cruz, Tamaulipas, Chihuahua, and Arizona. The specimens from one area alone may exhibit various skin and cranial characters that have been attributed to several geographic races. For example, the series of thirteen specimens from Salvador contains individuals as light as examples of *pallida* from Chihuahua and others almost as dark as examples of *panamensis* from Panama. In cranial details, too, the variation in this series from Salvador is sufficient to include the "diagnostic" features of *pallida*, *molaris*, *bullata*, *narica*, *richmondi*, *yuca-tanica*, and *panamensis*. Particularly anomalous is the fact that two skulls at hand from Costa Rica, near the type locality of *bullata*, a race characterized by large bullae, have the smallest bullae of the lot before us. The bullae of our two skulls of *bullata* measure 13.5 by 9.7 mm. and 12.4 by 9.0 mm., respectively. The measurements of the bullae of the two specimens listed by Allen (1904: 50) are 17.0 by 11.0 mm. and 17.0 by 12.0 mm., respectively. The bullae of a male from Salvador measure 17.1 by 11.9 mm., of a male from Guatemala 17.1 by 12.0 mm. Both of these are closer to Allen's measurements of the bullae of *bullata* than are our near topotypes of *bullata*! The bullae of a female from Salvador are similar in size (13.3 by 10.0 mm.) to those of a female from Tamaulipas (13.4 by 10.8). A male from Chihuahua has bullae about the same size as those of a male from Panama, 15.4 by 11.6 and 16.1 by 11.6 mm., respectively.

A juvenile specimen from Guerrero has the fully emerged first upper and lower molars no larger than those teeth in specimens of comparable age from British Honduras, Salvador, and Panama. The molars of the Guerrero specimen are, however, larger than those of a specimen of comparable age from Chihuahua.

The only well-defined geographical trend that we can see in the variations of our specimens is in coloration. The general color becomes progressively darker, on the average, from north

to south. The specimens from northern Mexico are most pallid and those from Panama the darkest.

Mephitis macroura milleri.—Two are at hand from Carimechi, taken on December 27 and 31.

Urocyon cinereoargenteus madrensis, new subspecies

TYPE.—Male adult, skeleton and skin; Univ. Mich. Mus. Zool., No. 83176; Carimechi, Río Mayo, Chihuahua, Mexico; December 21, 1934; collected by Howard Scott Gentry; collector's No. 259.

MEASUREMENTS (in mm.).—Type, and female paratype (U.M.M.Z. No. 83177); total length, 924, 878; tail vertebrae, 385, 350; hind foot, 138, 131. Skull: condylo-basal length, 111.5, 110.5; zygomatic breadth, 62.0, 58.9; breadth of braincase, 42.2, 43.5; interorbital constriction, 22.3, 18.8; width of rostrum at widest place across canines, 16.6, 16.4; length of a nasal medially (measured along median suture and including slight, anterior projection), 37.7, 34.4; length of nasal laterally (measured from posterior border of nasal to anterior border of lateral projection adjoining premaxillary), 39.9, 36.6; alveolar length of maxillary tooth row including canine, 48.9, 49.3; length of upper carnassial along its long axis, 11.2, 11.0; greatest width across upper molars, 31.6, 30.8; breadth of M^1 , 10.2, 10.1; labial length of M^1 , 8.0, 7.6.

DISTRIBUTION.—Known only from the type locality, but probably ranges over most of southern Chihuahua, southeastern Sonora, and northern Durango and Sinaloa in the Durangan Biotic Province.

CHARACTERS.—Type, winter pelage: size small; pelage soft; upper parts, including top of head and sides of body, finely grizzled; middorsal area, from nape of neck to tip of tail, darkened by concentration of black-tipped guard hairs, forming a distinct dorsal stripe; posterior bases of ears, sides of neck, and posterior surfaces of fore and hind legs Ochraceous-Orange; lateral line, band across neck, insides of front legs, and flanks Ochraceous-Buff; throat, breast, inguinal region, and a line along inside of each hind leg whitish; small area on each side of nose pad and line beneath eye white; chin and

lips black; upper sides of front and hind feet mixed gray and Ochraceous-Buff; under surface of tail bordered with Ochraceous-Buff. Skull small; rostrum narrow; maxillary tooth row and upper carnassial relatively long.

COMPARISONS.—In size *madrensis* is similar to *colimensis*. It differs from *colimensis* in softer (less harsh) pelage; brighter, richer coloration; darker, more distinct dorsal stripe; blackish area around mouth and on chin more intensely black; color around bases of ears and on sides of neck brighter and nearer Ochraceous-Orange than Ochraceous-Tawny or Orange-Cinnamon as in *colimensis*; outside of front and hind legs less grizzled, more ochraceous; skull with narrower rostrum and longer upper carnassial (length of upper carnassial averages 67.25 per cent of width of rostrum in *madrensis* and 60 per cent in the *colimensis* at hand); narrower zygomatic spread; and longer maxillary tooth row. Differs from *scottii* in distinctly smaller size; much smaller nose pad; darker, richer coloration; more ochraceous, less buffy, at bases of ears and on neck; narrower white subterminal bands on guard hairs of back and sides; smaller skull, with relatively longer maxillary tooth row and upper carnassial; relatively and actually narrower rostrum; and smaller M^1 , with distinctly narrower heel. The race *madrensis* is distinguishable from *orinomus* by the same characters, except one, serving to distinguish *madrensis* from *colimensis*; *orinomus* has a distinct dorsal stripe. In coloration, *madrensis* is practically indistinguishable from the Lower Californian *peninsularis*.

REMARKS.—The race *madrensis* probably ranges near *scottii*; its small size, rich coloration, and small nose pad, however, clearly indicate relationships of *madrensis* with the Mexican group of gray foxes and not with the northern *scottii* and its close relatives.

Specimens at hand from Tamaulipas are between *scottii* and *orinomus* in characters of skin and skull. The single adult skull at hand exhibits the diagnostic characters of *scottii*. The three subadult and juvenile skins are similar in color to specimens of *orinomus* from Vera Cruz.

SPECIMENS EXAMINED.—*Urocyon cinereoargenteus madrensis*: Chihuahua, Río Mayo, Carimechi, 2. *U. c. colimensis*: Colima, 3. *U. c. orinomus*: Vera Cruz, Las Vigas, 1; Orizaba, 2. *U. c. scottii*: Arizona, Coconino Co., San Francisco Mountain, 1. New Mexico, Valencia Co., 1½ miles south of Grants, 1; 8 miles southeast of Paxton, 1. Tamaulipas, San Carlos Mountains, 5. *U. c. peninsularis*: Lower California, Cape San Lucas, 1.

Canis latrans vigilis.—A subadult female was taken on December 12 in the vicinity of Carimechi. The diagnostic characters given by Allen (1903: 610) for *imavidus* do not apply well to our specimen.

Felis concolor azteca.—One was taken on June 8 at Los Tanques.

Sciurus truei.—Two males and two females were taken on December 14 and 24 near Carimechi.

Perognathus goldmani.—Two, one a skin only and the other a skin with skull, were taken on December 22 and 27, respectively, among mesquite on sandy areas along the Río Mayo near Carimechi.

Perognathus artus.—Eight, three skins only and five skins with skulls, were collected on December 10 and 12 near Carimechi in situations similar to those where *P. goldmani* was taken.

The skins of *artus* are similar to those of *goldmani* except for slightly smaller size, less hairy tail, and broader dorsal tail stripe. The skulls differ in having a broader supraoccipital (least width 6.0, 6.4 mm. in two adult *artus*, and 5.7 mm. in one adult *goldmani*), smaller, more rugose and more prominently ridged mastoids, and greater extensions of the premaxillae beyond the posterior borders of the nasals (less than 1 mm. in *goldmani*, more than 1 mm. in *artus*).

Peromyscus eremicus anthonyi.—Eight specimens were taken on December 12, 15, and 17 near Carimechi. A cinnamon pectoral spot is present in two; the rest are evenly white ventrally.

Neotoma mexicana madrensis.—Three subadults were col-

lected on December 15, 16, and 17, respectively, at Carimechi. Two have dusky tarsi; one has the hairs white throughout, not gray basally, in the pectoral region.

Lepus alleni palitans.—A lactating female was taken on February 18 near San Bernardo.

Odocoileus sinaloae.—Two were taken on December 7 and 24, respectively, in the vicinity of Carimechi.

REFERENCES

ALLEN, JOEL A.

1903 List of Mammals Collected by Mr. J. H. Batty in New Mexico and Durango, with Descriptions of New Species and Subspecies. *Bull. Amer. Mus. Nat. Hist.*, 19: 587-612.

1904 Mammals from Southern Mexico and Central and South America. *Ibid.*, 20: 29-80, 18 figs.

BURT, WILLIAM H.

1938 Faunal Relationships and Geographic Distribution of Mammals in Sonora, Mexico. *Misc. Publ. Mus. Zool. Univ. Mich.*, 39: 1-77, 26 maps.

MARTÍNEZ, LIBORIO, AND BERNARDO VILLA

1938 Contribuciones al conocimiento de los murcielagos de Mexico. *Anales del Inst. de Biol.*, 9: 339-60, 10 figs.

SANBORN, COLIN C.

1937 American Bats of the Subfamily Emballonurinae. *Field Mus. Nat. Hist., Zool. Ser.*, 20: 321-54, 12 figs.

