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FOUR NEW RODENTS FROM COSTA RICA

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Mr. Cecil F. Underwood, on his last field trip in December, 1942, visited Savanna de Potrero Grande in southwestern Costa Rica. The specimens secured on this trip are especially interesting since they include a splendid series of *Oligoryzomys* that provides the missing key necessary for a satisfactory study of the Costa Rican pygmy rice rats. Besides other desirable specimens, Mr. Underwood brought back a large series of an undescribed harvest mouse of the *mexicanus* group, the first specimens of this species recorded from the Pacific side of the Cordillera in Costa Rica.

I wish here to express my appreciation to Dr. W. H. Burt and Mr. William P. Harris for permission to describe a harvest mouse from Guanacaste, in the University of Michigan collections. Miss Barbara Lawrence very kindly lent me comparative material in the Museum of Comparative Zoölogy. Major E. A. Goldman checked over the large series of Costa Rican *Oligoryzomys* and very generously gave me the benefit of his valued opinion.

Reithrodontomys mexicanus potrero-grandei, new subspecies

TYPE: A.M.N.H. No. 142464, fully adult male, Agua Buena, locally known as Cañas Gordas but west of the real Cañas Gordas, Savanna de Potrero Grande, Costa Rica, elevation about 3500 feet, December 29, 1944; collector, C. F. Underwood. The type is a skin and skull in good condition, largest in the series; molar teeth showing some wear. Besides the type there are 14 topotypes, mostly adults.

GENERAL CHARACTERS: A very small *Reithrodontomys* of the *mexicanus* group, similar to *R. m. minisculus* Howell from Honduras but even smaller, about the color of *R. m. cherrii* Allen but much smaller and with noticeably smaller feet.

DESCRIPTION OF TYPE: Color of upperparts bright Ochraceous-Tawny, shaded with Fuscous on middorsal area, cheeks and sides of body clear bright Ochraceous-Tawny, fore and hind feet dull white with a strong median stripe of Hair Brown extending from above ankles to base of toes on hind feet, ears Fuscous, tail unicolor Fuscous, the tip white in some topotypes, a blackish ring around eye. Underparts white but stained on chest with Pinkish Buff, possibly from the juice of some fruit, the hairs dark Plumbeous at base except on chin and throat where it is white to roots. One individual in the type series is clear Ochraceous-Tawny without any shading of Fuscous on the back and has small, but distinct, pre-auricular tufts of white hairs. Skull similar in general characters to that of *R. m. cherrii* but much smaller and with smaller teeth and more globular braincase. Rostrum relatively long and slender, anterior palatine foramina moderately long and reaching posteriorly to a line across the front of the first molariform teeth, zygomatic arches somewhat constricted anteriorly; the premaxillae extending slightly beyond the posterior border of the nasals.

MEASUREMENTS OF TYPE: The average of six largest topotypes is given in parentheses. Total length, 175 mm. (178: 170-188); tail vertebrae, 111 (107: 101-114); hind foot, 18 (18: 18-18); ear, 12 (13: 13-13). Skull: greatest length, 22.5 (21.6: 21-22.3); zygomatic width, 10.8 (10.8: 10.5-11.1); width of braincase, 10.8 (10.6: 10.3-10.8); length of nasals, 8.6 (7.9: 7.8-9); width of outer wall of anteorbital foramen, 1.2 (1.25: 1.2-1.3); width of palate across first molars, 4.5 (4.3: 4.2-4.5); alveoli of upper molar series, 3 (2.9: 2.8-3).

Reithrodontomys m. potrero-grandei is clearly referable to the *mexicanus* group and

is apparently the west coast representative of this species in Costa Rica. It is much smaller and distinct from the Chiriqui *R. m. garichensis* Enders, and needs no comparison with *R. dariensis* Pearson, a small species from eastern Panama and allied to the Colombian *R. milleri* Allen.

***Reithrodontomys harrisi*, new species**

TYPE: M.Z., U.M. No. 65220, adult male, skin and skull, teeth worn, Hacienda Santa Maria, Guanacaste, Costa Rica, a large hacienda, the eastern part of which is within the cloud forest, 18 miles northeast of Liberia, altitude 3200 feet, January 27, 1932; collector, Austin Smith. The type, the only known specimen, was caught by hand on the ground in the forest.

GENERAL CHARACTERS: A small harvest mouse with relatively short bicolored tail, feet white to ankles, light-colored ears, and underparts white to roots of hair. Similar in many respects to *R. gracilis* Allen from Yucatan and *R. g. anthonyi* Goodwin from Guatemala but differing from both in brighter color and some cranial characters.

DESCRIPTION OF TYPE: Color of upperparts light Ochraceous-Tawny, sparsely mixed with dark brown hairs, paler on head and sides of body; ears drab; tail distinctly bicolored, Fuscous above, hairs white below; fore and hind feet white to wrists and ankles. Underparts white to roots of hair except for a narrow margin along sides where the fur is Plumbeous at base. Skull small, superior outline nearly straight, bullae small, zygomatic arches squared anteriorly, the sides parallel; rostrum slender, tapered anteriorly; braincase small and low, palatal foramina short, ending posteriorly slightly in front of first molars, premaxilla extending slightly beyond posterior border of nasals.

MEASUREMENTS OF TYPE: Total length, 162 mm.; tail vertebrae, 92; hind foot, 18; ear, from notch, 14. Skull: greatest length 22.1; zygomatic width, 10.5; interorbital width, 3.5; width of braincase, 10.4; width of outer wall of anteorbital foramina, 1.65; length of palatine foramina, 3.35; length of nasals, 7; alveoli of upper molar series, 2.8.

Reithrodontomys harrisi may be readily distinguished from any other species known to occur in Costa Rica by its uniform dorsal color, relatively short bicolor tail, light-colored ears, and white feet without any indication of a brown stripe extending below ankles. Compared with *R. g. anthonyi*, the most closely allied form, *R. harrisi* is smaller, the pelage Tawny instead of buffy, and the underparts are white to roots of hairs instead of being broadly Plumbeous basally. The skull of *R. harrisi* is smaller than that of *anthonyi*, with a flatter braincase, smaller bullae, and more squared zygomatic arches. Externally *R. harrisi* is not unlike *R. fulvescens chiapensis* Howell, but the resemblance is only superficial.

This species I named in honor of Mr. William P. Harris whose generosity was the means of securing this and many other desirable specimens for the Museum of Zoology at the University of Michigan.

***Oryzomys fulvescens creper*, new subspecies**

TYPE: A.M.N.H. No. 141199, adult male, skin and skull, Volcan Irazu, Costa Rica, elevation 9400 feet, August 15, 1941; collector, C. F. Underwood. Besides the type there are 12 specimens from the vicinity of Villa Quesada and 12 from Los Higuerones, Escazu, referable to this new form.

GENERAL CHARACTERS: A relatively small, dark-colored, long-tailed *Oligoryzomys* with head and shoulders heavily overlaid with black. *O. f. creper* is smaller than *O. f. vegetus* from Chiriqui and differs from *O. f. costaricensis* from El General, not only in darker color but in having a more slender skull.

DESCRIPTION OF TYPE: Upperparts Ochraceous-Buff grading to almost Russet on rump and finely mixed with black, the black most intense on head and shoulders; cheeks and lateral line nearly clear Ochraceous-Buff; underparts white but faintly tinged with pale buff, the base of hairs Plumbeous, feet soiled white; tail brownish above, yellowish white below except toward tip which is dusky all around. Skull small and relatively narrow, rostrum

slender, the sides nearly parallel, braincase small, smoothly rounded but well inflated, interorbital region especially narrowed and teeth small.

MEASUREMENTS OF TYPE: Measurements of an adult male from Villa Quesada in parentheses to show extreme in variation. Total length, 197 mm. (200); tail vertebrae, 105, dry, 115 (120); hind foot, 22 (23); ear, 13 (13). Skull: greatest length, 22.9 (23.7); zygomatic width, 12 (12); interorbital width, 3.3 (3.3); width of braincase, 10.3 (10.5); length of nasals, 8 (9); anterior palatine foramina, 3.4 (3.6); palatal bridge, 3.8 (3.6); outer wall of anteorbital foramina, 1.6 (1.8); alveoli of upper molar series, 2.5 (3).

A series now available from Potrero Grande on the Rio Diquis, Costa Rica, affords a satisfactory basis for comparison and the determination of the characters of typical *O. f. costaricensis* Allen. It is apparent that this form is rather pale in color, as might be expected coming from low elevations on the western side of Costa Rica. *O. f. creper*, in addition to its characteristic dark coloration, is separable from Allen's form by its longer tail, smaller and more slender skull, more rounded braincase, and especially by the narrower interorbital space. *O. f. nicaraquae* is apparently a valid form and more closely allied to typical *fulvescens* than to *creper*. *O. f. vegetus* is decidedly larger than *creper*, with longer tail, larger hind foot, and more uniform coloration. In choosing the type I have, at Major Goldman's suggestion, selected the specimen collected at 9400 feet altitude on Volcan Irazu because mountain forms are apt to present their extreme development at high elevations. Specimens from Villa Quesada and Tabezco are typical and those from Escazu do not seem to be appreciably different.

***Oryzomys fulvescens reventazoni*,**
new subspecies

TYPE: A.M.N.H. No. 141891, skin and skull, male adult, Sta. Teresa, 3100 feet

elevation, a small town above Peralta in the lower Reventazon Valley, Province of Cartago, February 8, 1942; collector, C. F. Underwood. Besides the type there are four topotypes.

GENERAL CHARACTERS: A very small, dark-colored, pygmy rice rat. Similar in general appearance to *O. f. creper* but much smaller and tail shorter.

DESCRIPTION: Color of type very similar to that of *creper* but slightly more intense and underparts more buffy. The topotypes, however, are paler and duller colored with underparts white. Skull much smaller than that of *creper*, with a shorter and more sharply tapered rostrum; anterior palatine foramina relatively long and extending posteriorly to between the first molariform teeth. In *creper* they terminate in front of a line across the anterior border of these teeth.

MEASUREMENTS OF TYPE: Measurements of a semi-adult female in parentheses. Total length, 182 mm. (163); tail vertebrae, 103 dry (90); hind foot, 22 (20); ear, 13 (11). Skull: greatest length, 21.45 (20.1); zygomatic width, 11+ (10.5); interorbital width, 3.45 (3.4); width of braincase, 10.4 (9.7); anterior palatine foramina, 3.3 (3.3); palatal bridge, 3.7 (3.6); outer wall anteorbital foramina, 1.7 (1.5); nasals, 7.7 (7.5); alveoli of upper molar series, 2.8 (2.8).

Oryzomys f. reventazoni is a small, short-tailed form, apparently occupying the Caribbean side of Costa Rica at low elevation. While all specimens in the type series are rather young, some are breeding and show some wear on the teeth. They are all decidedly smaller than even younger individuals from higher elevation. More specimens from low elevations in eastern Costa Rica, however, are necessary to determine the extreme developments of this form.

