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A NEW TREE SQUIRREL AND A NEW COTTONTAIL
RABBIT FROM COSTA RICA

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AMONG the specimens of mammals collected in Costa Rica by Austin Smith a large tree squirrel and a cottontail rabbit represent new geographical races.

Sciurus variegatoides austini, new subspecies

TYPE.—Adult male (skin and skull), No. 65118, Division of Mammals, Museum of Zoology, University of Michigan; from Las Agujas, Province of Puntarenas, Costa Rica; collected September 22, 1931, by Austin Smith. The location is on a sandy peninsula with cocoanut palms and mangrove trees, 30 miles south of the city of Puntarenas. Besides the type there are 9 paratypes, 5 of which were taken in May, 1929, and 4 in September, 1931.

DIAGNOSIS.—Color of upper parts of the body a mixture of black, white, and Orange-cinnamon.¹ The head is lighter in color; forehead with more or less Vinaceous-cinnamon. Post-auricular patches white. Underparts rufous.

COLOR OF TYPE.—Head, including ears, dark grizzled gray with patch of Vinaceous-cinnamon on the forehead. Cheeks

¹ Capitalized names of colors refer to Ridgeway, R., *Color Standards and Color Nomenclature*, Washington: 1912, pp. i-iii, 1-43.

and chin gray. Postauricular patches white. Entire back grizzled grayish black. Hairs of back black at the base and tip, with subterminal band of Orange-cinnamon; or black, tipped with white. Hairs of legs, shoulders, and feet, Cinnamon-rufous to their bases; but there are patches of completely white hairs on the throat, in the axillae, and on the abdomen. Hair of the sides black at base with distal part Cinnamon-rufous. Tail above black, heavily washed with white; hairs black with long white tips. Tail below with median Cinnamon-rufous stripe, bordered with black and edged with white; hairs Cinnamon-rufous with broad subterminal band of black, and tipped white.

VARIATION.—The considerable series from Las Agujas shows relatively little variation compared to the amount of geographic variation in the squirrels of the group throughout Costa Rica. The color of the 9 paratypes is quite similar to the type except that some of them have the hairs on the legs and feet black at the base, imparting a darker color to these parts. There is some variation in the amount of the tinge of Orange-cinnamon on the back and of Vinaceous-cinnamon on the head.

SKULL.—The skull is like that of *dorsalis* and is indistinguishable from other skulls of the *variegatoides* group.

MEASUREMENTS (in mm.).—Type and paratypes: Total length, 532 (462–558); tail 271 (210–290); hind foot to end of claw, 65 (60–66). Skull of type: condylo-premaxillary length, 57.8; zygomatic breadth, 33; anterior end of premaxilla to palatal notch, 30.2; interorbital breadth, 19.8.

GEOGRAPHICAL DISTRIBUTION.—This new form represents an extreme color variety of the *variegatoides* group occurring along the Pacific coast to the south of Puntarenas. Specimens from Puntarenas and Chomes are intermediate between it and *dorsalis*.

REMARKS.—The author is in agreement with E. A. Goldman² that this group of squirrels, which includes *adolphei*

² Goldman, E. A., "Mammals of Panama," *Smithsonian Misc. Coll.*, 69 (1920): 136.

and *dorsalis*, should all be considered subspecies of *variegatoides*.

The name *austini* is given in honor of Mr. Austin Smith who has done so much fine work collecting mammals in Costa Rica, and who in the field recognized this form to be new.

***Sylvilagus floridanus costaricensis*, new subspecies**

TYPE.—Adult female (skin and skull), No. 65232, Division of Mammals, Museum of Zoology, University of Michigan; from Hacienda Santa Maria, Province of Guanacaste, Costa Rica, altitude 3200 feet; collected February 1, 1932, by Austin Smith. Hacienda Santa Maria is a large ranch just within the cloud forest on the western slope of the Cordillera de Guanacaste, 22 miles northeast of Liberia.

DIAGNOSIS.—Very similar to *S. f. aztecus*, but ears grayer, back less black, legs and nape richer tawny. Tip of the tail blackish on top.

COLOR OF TYPE.—Top of head and back light tawny washed with black. Hairs of back, gray at base, with subterminal band of light tawny, and tipped with black. Orbital ring light gray. Cheeks grayish. Sides and flanks gray washed with black. Color of the back extends downward in a narrow area in front of the thighs. Ears dark gray externally and at the base, shading to black at the tips; internally light gray edged with white. Outside of both fore and hind legs Cinnamon-rufous; this color extends over the front feet, but on the toes is mixed with gray. The upper surface of the hind feet is Cartridge Buff. Under surface of hind feet dark yellowish gray. Nape very bright clear Cinnamon-rufous. Patch on the throat grizzled yellowish gray. Underparts white. Tail at base like back, but tipped with black on top, and entirely white on underside.

SKULL.—Very similar to *S. f. aztecus* and *S. f. hondurensis*,³ but with slightly smaller bullae.

MEASUREMENTS (in mm.).—Type: total length, 427; hind foot to end of claw (dry skin), 84.6; ear from notch (dry

³ Goldman, E. A., "Two New Mammals from Honduras," *Proc. Biol. Soc. Wash.*, 45 (July 30, 1932): 122.

skin), 51. Skull: condylo-premaxillary length, 65.8; length of nasals, 34.7; breadth of rostrum above premolars, 20; depth of rostrum in front of premolars, 16.8; interorbital breadth, 193; parietal breadth, 23; diameter of bullae, 9.

GEOGRAPHICAL DISTRIBUTION.—Northwestern Costa Rica. Besides the type and 2 topotypes, there are at hand 2 specimens from El Pelon, and 1 from Tenorio (M. C. Z.).

REMARKS.—Nelson, in his revision of the rabbits of North America, had a single specimen of the *Sylvilagus floridanus* group taken at Tenorio, Costa Rica, by C. F. Underwood.⁴ He assigned this specimen to the subspecies *aztecus*, but remarked that it was a little grayer on the ears and a little more dusky on top of the tip of the tail but otherwise indistinguishable from specimens of *aztecus* from Oaxaca, Mexico. This specimen from Tenorio together with 5 others from Santa Maria and from El Pelon, Costa Rica, is distinguished from both *aztecus* and *hondurensis* by having less black on the back, by a brighter rufous tone to the legs and nape, and by slightly smaller bullae. *S. f. costaricensis* is decidedly more brightly colored and is smaller in both skull and body measurements than either *yucatanicus* or *chiapensis*.

The author wishes to express his thanks to the Museum of Comparative Zoology of Harvard University, to the United States Biological Survey, to the United States National Museum, and to the Donald R. Dickey Collection of the California Institute of Technology, for the loan of specimens for comparison.

⁴ Nelson, E. W., "The Rabbits of North America," *U. S. Dept. Agric., N. Amer. Fauna*, 29 (1909): 188.