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### FOUR NEW MAMMALS FROM COSTA RICA

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In a recent collection of mammals from Costa Rica sent to the University of Michigan by Austin Smith there are four undescribed forms. This collection comes from the Pacific slope of the high mountains south of Cartago in a region where, hitherto, there has been very little collecting of mammals. Three of the herein described species, of the genera Sylvilagus, Heteromys, and Bassaricyon, are represented by only one specimen.

# Sylvilagus dicei, new species

Type. Adult female (skin and skull), No. 64043, Museum of Zoology, University of Michigan. Collected May 24, 1931, by Austin Smith at El copey de Dota, in the Cordillera de Talamanca, Costa Rica, at an altitude of 6,000 feet. El copey de Dota is about 25 miles south of Cartago, and is on the Pacific watershed on the boundary between the subtropical and temperate zones.

DIAGNOSIS. Sylvilagus dicei is the largest of the Central American forest rabbits of the Sylvilagus gabbi group. Ears shorter than Sylvilagus insonus (Nelson) and color darker. Color resembles Sylvilagus gabbi (Allen) but is more blackish on the back and head. Skull larger than gabbi with heavier rostrum.

Color of Type. Top and sides of head, back and tail, Ochraceous-Tawny¹ heavily washed with black. Hairs gray for basal two-thirds with subterminal band of Ochraceous-Tawny and tipped with black. Orbital ring black. Sides and flanks lighter than back and with less black. Postauricular patch of Ochraceous-Orange. Ears more blackish than head. Outside of fore legs and both fore and hind feet clear Ochraceous-Tawny. Patch of Ochraceous-Tawny on underside of neck: hairs of this patch gray at base, sometimes tipped with black. Rest of underparts, including chin and undersides of legs, white. Undersides of feet very dark gray. Hairs of underparts gray at the base and tipped with white.

Skull. Larger than gabbi, with heavier and broader rostrum and larger brain case. Nasals flatter and less arched posteriorly than in gabbi. The nasals extend posteriorly beyond the premaxillae. Supraorbital process fused with frontals. Postorbital process joined at the posterior end to the skull. Frontals very flat anteriorly. Auditory bullae small. Incisive foramen broader posteriorly than in gabbi and posterior palatine foramina slightly larger. Basioccipital broad. Zygomatic arch massive. The upper tooth rows are considerably longer and farther apart in dicei than in gabbi. The bony palate is shorter and broader. The posterior edge of the re-entrant angles of the lower molariform teeth are heavily looped.

MEASUREMENTS. Type: total length, 455 mm.; hind foot to end of claw, 100 mm.; ear, 56 mm. Skull: condylo-premaxillary length, 68.5 mm.; length of the nasals, 33.4 mm.; breadth of rostrum, 21 mm.; depth of rostrum, 16.7 mm.; interorbital breadth, 17.3 mm.; parietal breadth, 23.4 mm.; diameter of bullae, 9 mm.; length of upper tooth row, 15 mm.; distance between third upper premolars, inside, 13.7 mm.

Remarks. This form is evidently related to Sylvilagus qabbi and belongs to the subgenus Tapeti.

<sup>1</sup> Capitalized names of colors refer to R. Ridgway, Color Standards and Color Nomenclature, Washington. Pp. i-iii, 1-43. 1912.

## Bassaricyon lasius, new species

Type. Adult male (skin and skull), No. 64103, Museum of Zoology, University of Michigan. Collected June 29, 1931, by Austin Smith, at Estrella de Cartago, Costa Rica. This locality is six to eight miles south of Cartago near the source of the Rio Estrella, at an altitude of about 4,500 feet.

DIAGNOSIS. Fur longer and thicker than is typical for the other species of the genus. Color of back grizzled blackish gray. Underparts light yellowish buff.

Color of Type. Upper parts grizzled blackish gray. Median line of back slightly more blackish. Hairs of top of head gray at base, with subapical band of very light gray, and tipped with black. Ears gray, edged with white. Upper base of ear with black patch extending back to the neck. Yellowish buff patch below the ear, extending backward, and in contact ventrally with the black patch. Hairs of back gray at the base with subapical buffy band and tipped with black. Color of the legs and feet like the back but with the flanks slightly washed with yellowish buff. Tail above like back. Edges of tail have a metallic silvery sheen. Tail below light gray. Hairs of tail light gray throughout their length, but occasionally with a median black band. Underparts light yellowish buff.

Skull. The skull of lasius closely resembles B. richardsoni Allen but has a more massive ramus and the rostrum is wider and rises more abruptly. The zygomatic arch is higher and more arched than in B. oriomus Goldman, B. richardsoni or B. gabbi Allen. The breadth of the brain case, the depth of the skull between the palate posterior to the third molar and the frontals, and the width of the palate is greater in lasius than in any of the other species of the genus. There is a slight saggital crest on the interparietal of lasius which is lacking in the other three species. The second premolar of lasius is very close to the canine with a greater space between the second and third premolars than in any of the other species. When more specimens are available, however, these

skull differences may be found to be within the range of individual variation.

MEASUREMENTS. Type: total length, 820 mm.; tail, 437 mm.; hind foot to end of claw, 77 mm.; ear from crown, 35 mm. Skull: condylo-premaxillary length, 78.3 mm.; zygomatic breadth, 55 mm.; breadth of brain case, 36.8 mm.; interorbital breadth, 18 mm.; breadth of rostrum, 17.7 mm.; depth of skull between palate posterior to the third molar and the frontals, 28.5 mm.

REMARKS. This is the fourth form of this rare genus to be described from Central America. One other species, *Bassaricyon alleni* Thomas, has been named from Ecuador.

B. lasius is strikingly different from all the other forms in its longer and thicker fur and in its gray color.

After examining all the specimens of the genus *Bassaricyon* in the National Museum and in the American Museum of Natural History it appears evident to me that *richardsoni* should be considered a subspecies of *B. gabbi*.

## Heteromys oresterus, new species

Type. Adult male (skin and skull), No. 64027, Museum of Zoology, University of Michigan. Collected May 25, 1931, by Austin Smith, at El Copey de Dota in the Cordillera de Talamanca, Costa Rica, at an altitude of 6,000 feet.

DIAGNOSIS. Similar to *Heteromys repens* Bangs but size larger and color darker; ears edged with white. Pelage very soft. Tail black above.

Color of Type. Upper parts blackish gray grizzled with Ochraceous-Buff hairs. Sides more buffy than the median area of the back and head. Ears blackish with white edgings. Underparts and feet white. Fore legs above like color of sides. Hind legs above and ankles dark gray. Tail black above and white below except at the base, where it is black all around. Tail with white tip.

SKULL. Skull similar to repens but with longer rostrum more inflated anteriorly; prexamillae reaching posteriorly beyond the nasals; palate narrower; bullae less inflated.

MEASUREMENTS. Type: length, 357 mm.; tail, 174 mm.; hind foot, 40 mm.; ear from crown, 16 mm. Average of eight adult topotypes: 340 mm.; 174 mm.; 40 mm.; 17 mm. Skull: (type) greatest length, 39.6 mm.; zygomatic breadth, 16.8 mm.; interorbital breadth, 9.6 mm.; length of nasals, 16.2 mm.; width of braincase, 15.7 mm.; alveolar length of upper molar series, 5.2 mm.

## Oryzomys aphrastus, new species

Type. Adult female (skin and skull), No. 62875, Museum of Zoology, University of Michigan. Collected June 29, 1931, by Austin Smith at Joquin de Dota, Costa Rica. This locality is southeast of Santa Maria de Dota in the Pacific rain forest at an altitude of about 4,000 feet.

DIAGNOSIS. Fur long and very soft. Tail more than one and one-half times the length of the head and body. Digital bristles present. Claws sharp and strongly recurved. Supraorbital ridges present. Ears thinly furred externally and internally with blackish hairs. Vibrissae long. Skull narrow with fairly long rostrum. Anterior palatine foramina medium in length. Small audital bullae.

Color of Type. Upperparts including head very dark grizzled yellowish brown. Sides and flanks paler and more Ochraceous-Buff. Hairs of back dark lead gray at base with blackish tips but with numerous hairs with broad subapical band of Ochraceous-Buff. Ears internally and externally furred with short blackish hairs. Tail blackish both above and below with tuft of black hairs at the tip. Feet dark brownish black, with rather inconspicuous digital bristles. Underparts Ochraceous-Buff. Chin and throat gray. Hairs of underparts lead gray at base tipped with Ochraceous-Buff.

SKULL. The skull is long and narrow with prominent supraorbital and temporal ridges. Audital bullae small. Nasals extend posteriorly beyond the premaxillae. Zygoma slender, not depressed to level of molars and wider posteriorly than anteriorly. Molar series with prominent cusps and deep re-entrant angles.

Measurements. Total length, 387 mm.; tail, 235 mm.; hind foot, 40 mm.

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