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Two New White-footed Mice from Oaxaca, Mexico

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In the collections made by Thomas MacDougall in Oaxaca there are over 660 white-footed mice taken on the Isthmus of Tehuantepec. The series includes nine named forms and two undescribed subspecies.

Here the common mouse of the highlands is *Peromyscus boylii levipes*. A large series of this species which shows considerable local variation was collected. They average smaller, lighter in color, and have a shorter tooth row (4.1–4.4 mm.) than typical specimens. On the Pacific ranges, and even in cloud forests, specimens have the basic color bright cinnamon buff, and many are little darkened on the back with blackish hairs even in fresh pelage. A few have a bright, buffy pectoral spot considerably produced posteriorly. Specimens from localities farther north are more tawny, heavily modified on the back with black and without pectoral markings. They are all much smaller and show no intergradation with *P. boylii evides*.

Peromyscus oaxacensis is a mountain form. It seems to be rather variable and local in distribution. Two individuals from Lachiguiri, at 3000 feet, and one from San Pedro Jilotepec, at 5000 feet, are relatively small in size, and the upper sides of the hind feet have a sharp, sooty black marking extending to the base of the toes in the form of a broad V. Specimens from Cerro Atravesado, at 4000 feet, average large in size for *oaxacensis* and have rather short, close, clay-colored hair, and except for large size are indistinguishable externally from *P. boylii evides*. They resemble *P. mexicanus* in some conditions of pelage, and the skulls are very similar, but this series can be distinguished from *mexicanus* by the white under parts, more hairy and more sharply bicolored tail, larger

molariform teeth measuring up to 5.3 mm., large bullae, and the parallel instead of converging maxillary tooth rows.

Peromyscus melanophrys is a common, large mouse on the arid mountain slopes up to about 5000 feet altitude and is easily recognized by its long, hairy tail. *Peromyscus banderanus angelensis* is also relatively abundant in dry regions at elevations of about 3000 feet west of the Rio Tehuantepec, which seems to be the eastern boundary of its range. The large series shows little individual variation and is similar to the Puerto Angel type series. Without exception all the specimens have a sharply defined, bright, buffy pectoral patch produced posteriorly in a broad line.

Specimens of *Peromyscus mexicanus tehuantepecus*, synonymized by Osgood with *mexicanus*, from the Pacific mountain slopes of the Isthmus up to 3000 feet, are dull, buffy gray in color with relatively narrow, rounded skulls, contrasting with the brighter color and angular skulls of the more northern specimens of typical *mexicanus*. A series from Ixcuintepec, at 4000 feet, are identical in color with topotypes of *P. m. totontepecus*, and are as dark as *P. guatemalensis*. Specimens of *P. megalops megalops* taken at Santo Tomás Teipán, Yautepec, at 7000 feet elevation, are duller and grayer than typical specimens, nearer the color of *P. difficilis felipensis*, the latter species being represented by 19 specimens from Mixtepec, Miahuatlán, at 6000 feet elevation. *Peromyscus leucopus affinis* is represented by a few specimens from scattered localities in the lower foothills and coastal plains of the Isthmus.

Characters of a small series from the headwaters of the Rio Encajonado in southeastern Oaxaca and a small series from cloud forest near Yautepec seem sufficiently distinct from any named forms which might occur in these regions to consider them as representatives of two new subspecies.

I am indebted to the United States Fish and Wildlife Service, Washington, D. C., for the loan of comparative material.

Peromyscus banderanus sloeops,¹ new subspecies

TYPE: A.M.N.H. No. 166026, skin and skull, adult male, teeth showing considerable wear; Rio Mono Blanco, in the pine and oak woods, 25 kilometers northeast of Zanatepec, altitude about 3000 feet, District of Juchitán, Oaxaca, Mexico; collector, Thomas MacDougall; March 26, 1954. The type skin is in good condition, and the skull is complete except that the basioccipital is broken. Besides the type there are an old male, and adult female topotype, and three subadult specimens from Arroyo Cardón.

GENERAL CHARACTERS: A rather large, uniformly buffy-colored mouse

¹Refers to the black circle around the eye.

with long, soft, lax pelage; moderately large ears; long vibrissae (57.5 mm.); bicolored tail, longer than length of head and body; large feet; under parts of body white; and soles of hind feet narrowly naked medially.

DESCRIPTION OF TYPE: General color of upper parts about Clay Color¹ with little gloss to the pelage, the hairs tipped with Ochraceous-Buff and modified by an admixture of uniformly distributed blackish hairs, lateral line near clear Cinnamon-Buff; top of head and area between eye and ear Ochraceous-Buff mixed with Drab-Gray; cheeks Cinnamon-Buff continuing with main color of sides; a strongly defined, broad orbital ring Sooty Black contrasting sharply with grayish area about it; base of whiskers black posteriorly and white anteriorly; under parts white slightly tinted with Pinkish Buff but not thoroughly covering the plumbeous under color of the relatively long hair; a buffy pectoral patch rather faintly outlined in the type and considerably produced posteriorly in a narrow line, much as in *P. b. angolensis*, but less distinct and absent in topotypes; fore and hind feet white to ankles and wrists; tail moderately haired, dusky above, white below with the scaly part slightly blotched with dusky below.

SKULL: Rather large, long, and rounded, with a broad rostrum and relatively large, long braincase; supraorbital ridges moderately well developed and forming a narrow shelf over posterior half of orbit and bounded on inner side by a slight channel extending backward beyond frontoparietal suture; lacrimal region swollen; nasals wedge shaped, slightly spreading anteriorly and ending posteriorly in front of a well-marked interlacrima pit and about on plane across anterior border of orbits; anterior palatine foramina narrow, the sides nearly parallel and ending posteriorly to plane across the front of first molars.

Molariform teeth small, the upper tooth row somewhat crescent shaped, the palate being widest between middle molars; interpterygoid fossa rounded; bullae small.

MEASUREMENTS OF TYPE (Measurements of adult male topotype in parentheses): Skins: total length, 247 (277); length of tail, 127 (143); length of hind foot after dampening, 28 (28); length of ear from notch after dampening, 16 (19). Skulls: greatest length, 33.5 (35.4); zygomatic width, 16.3 (16); interorbital width, 5.4 (5.4); interparietal, 10.5 by 3.4 (12.0 by 3.6); length of nasals, 13.6 (14.7); width of braincase in front of occipital crests, 13.2 (13.7); width of palate across molars, 7 (7); alveolar length of upper molar series, 5.0 (5.0).

REMARKS: Though seemingly a distinct form, the affinities of *P. b.*

¹ Capitalized color terms are after Ridgway, "Color standards and color nomenclature," Washington, D. C., 1912.

sloeps appear to be with *angelensis*; its pelage and color pattern are in accord. The skull suggests that of *guatemalensis*, but detailed characters seem to imply that its proper position is with *banderanus*. The three specimens in adolescent pelage from Arroyo Cardón, at 3000 feet, are uniformly buffy drab in color and have similar soft pelage. The skulls, however, are too immature and damaged to show distinctive characters.

The valley and the Rio Mono Blanco are not shown on any map. This river flows into the Rio Portamoneda. The area here is intermediate between the rather dry Cintalapa Valley in Chiapas and the rain forest to the west. In the valley of the Rio Mono Blanco there are bottom lands with fine stands of timber. On the surrounding slopes are pine and oak, while at higher altitudes are cloud forests.

Peromyscus hyloces yautepecus, new subspecies

TYPE: A.M.N.H. No. 146060, skin and skull, adult male, teeth showing considerable wear; Santo Tomás Teipán, cloud forest above village 12 kilometers south of San Bartolo Yautepec, altitude about 7000 feet, Oaxaca, Mexico; Thomas MacDougall, collector; March 27, 1949. The type skin is in good condition, and the skull is complete. Besides the type there are five topotypes.

GENERAL CHARACTERS: A moderately large, buffy-colored, white-footed mouse of the *boylei* group with a short, well-haired, bicolored tail, about equal to or shorter than length of head and body.

DESCRIPTION OF TYPE IN UNWORN PELAGE: Color of upper parts Light Ochraceous-Buff, becoming more tawny on sides, heavily mixed with blackish hairs on back, forming a more or less distinct dark dorsal stripe; a rather broad, bright, Ochraceous-Tawny, lateral line extending to cheeks; nose and top of head buffy gray; a sharply defined orbital ring, and spot at base of whiskers black; ears blackish, sparsely covered with blackish brown hairs; under parts creamy white, slightly modified by the plumbeous basal color of hair; feet mostly white, dusky color extending to carpal joint and over tarsal joint halfway to base of toes on hind feet; tail sharply bicolor, blackish brown above and white below.

SKULL: Rather flat, short and broad with a low braincase; premaxillae ending posteriorly on a line with nasals; interparietal rather narrow; anterior palatine foramina narrow and ending at a line across front of anterior molars; interpterygoid fossa broad, almost as wide anteriorly as palatal bridge; bullae rounded and relatively small for the species; supraorbital border sharply angled and forming a slight shelf. Molariform teeth rather small; the maxillary tooth rows parallel and not converging posteriorly.

MEASUREMENTS OF TYPE (Measurements of adult male and female topotypes in parentheses): Skins: total length, 220 (203, 207); length of tail, 105 (102, 107); length of hind foot, 26 (25, 25); length of ear from notch after dampening, 16 (15.5, 16.2). Skulls: greatest length, 30.4 (29.2, 29.5); zygomatic breadth, 16.3 (15, 15.5); length of nasals, 12.6 (11.5, 10.5); interorbital breadth, 4.9 (4.6, 4.8); width of brain-case immediately in front of occipital ridge, over auditory meatus, 12 (11.5, 11.8); width of interpterygoid fossa anteriorly, 2.5 (2.5, 2.3); length of palatal bridge, 5.1 (5.3, 5.1); alveolar length of maxillary tooth row, 5 (4.9, 4.9).

REMARKS: *Peromyscus h. yautepecus* is smaller and more tawny-colored than *hylocetes* and has smaller ears; the skull is shorter and broader, with a shorter rostrum, smaller teeth, and smaller bullae than the typical form. It is larger and darker than *P. boylüi evides* from Juquila in the humid forest at 5000 feet in southern Oaxaca, and it has a heavier and broader skull. Furthermore, this locality is occupied by *P. boylüi levipes*, and two forms of one species do not normally occur in the same locality. Its relationship to *oaxacensis* from high altitudes in Oaxaca is not so clear, but the much shorter tail (100–108), smaller skull, shorter tooth row, and other cranial details seem to distinguish *yautepecus* from this species. Characters of this new form are most specialized in the type.

