

A new subspecies of the squirrel *Sciurus variegatoides* Ogilby from Costa Rica*

by

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Populations of squirrels of *Sciurus variegatoides* Ogilby from Central America present an extraordinary variability of color, especially in Costa Rica where six of the fourteen described subspecies are recorded. Five subspecies of *S. variegatoides* were recorded from Costa Rica by HARRIS (3), while GOODWIN (1) and HALL and KELSON (2) recognized seven subspecies. Subspecies of *S. variegatoides* were unknown from the Pacific slopes of southern Costa Rica to the above researchers. Since 1963, Louisiana State University has amassed a sizeable collection of Costa Rican mammals. This collection contains two specimens that differ considerably from the previously described subspecies in Costa Rica as well as additional specimens of *S. variegatoides melania*. The addition of the new subspecies to the fauna of Costa Rica and the range extension of *S. variegatoides melania* into Costa Rica will provide a better understanding of the distributional relationships of *S. variegatoides* in southern Costa Rica and western Panama.

Sciurus variegatoides loweryi, n. ssp.

TYPE: Adult female (skin and skull) No. 10204, Museum of Zoology, Louisiana State University, from 1 rd mi S Paso Real, Río Escuadra, Province of Puntarenas, Costa Rica; collected by Keith Arnold on 25 July, 1965, at an altitude of 150 meters in the Tropical Moist Forest portion of the Valle del General (4).

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DIAGNOSIS: The color of the upper parts is a mixture of black and tawny with the black predominating. The dorsolateral, lateral, and ventral parts of the specimens are tawny. Postauricular patches are tawny. The dorsal surface of the tail is a mixture of black and white. On the ventral surface the hairs of the tail are brown basally followed by bands of tawny and black, tipped with white.

COLOR OF TYPE: Head, a mixture of tawny and black hairs in about equal amounts. The cheeks are tawny, becoming darker dorsally, darkest on the forehead. The ears are black-tipped, with tawny on the anterior surface. The tawny color of the postauricular patches extends onto the posterior surface of the ear. The mid-dorsal stripe is black with a fine mixture of tawny hairs. Individual hairs from the dorsum are banded black, tawny, and tipped black with the tawny band being the widest. The black color extends onto the dorsal surface of the tail where it is mixed with white. Tail hairs are banded brown, tawny, black, and white. Underparts, including feet and limbs, are a uniform tawny color from chin to tail. This color extends onto the dorsolateral areas of the body.

VARIATION IN COLOR: A second specimen (Paratype) was collected on 20 May, 1965, 1 km WNW Buenos Aires, Puntarenas Province, at an altitude of 365 meters. This specimen differs from the above in that the black dorsal stripe extends only to the lumbar region, with the tawny hairs extending across the rump. The tips of the hairs on the tail are tinged with tawny but white predominates.

SKULL: The skulls are indistinguishable from other specimens of *S. variegatoides* in Costa Rica.

MEASUREMENTS (in mm): Type and Paratype: Total length, 493(496); tail 247(235); hind foot 60(62); ear 27(25). Skull measurements: condylobasal length, 51.8(53.01); zygomatic breadth, 33.8(32.4); anterior end of premaxilla to palatal notch, 29.7 (30.0); interorbital breadth, 19.7 (19.9); left maxillary tooth row, 11.5(10.9).

GEOGRAPHIC DISTRIBUTION: *Sciurus v. loweryi* represents a color variety of *S. variegatoides* known only from the Valle del General and the Valle de Coto Brus. The known distribution does not include the higher altitudes of the Cordillera de Talamanca. *Sciurus v. melania* ranges from Panama to Valle de Parrita along the southern Pacific lowlands and *S. v. rigidus* in the valleys and on the Meseta Central to the northwest. To the north, the Cordillera de Talamanca separates the range of *S. v. loweryi* and *S. v. thomasi*, which occurs from Panama to Nicaragua on the lower slopes of the cordilleras and in the tropical coastal lowlands of eastern Costa Rica. *Sciurus v. dorsalis* inhabits the more arid portions of the Province of Guanacaste and northward into Nicaragua. The

range of *S. v. loweryi* lies in a weak rain shadow between the Cordillera de Talamanca and Fila Costeña. Specimens showing intergradation with *S. v. melania* may occur along the Río Grande de Térraba or near the Panamanian border, east of San Vito, but presently no intergrades are known. Based on the specimens now available, one might suggest designating this new form as a species but considering the variability of *S. variegatoides*, the small sample size, the ecological relationships, and the geographic distribution, the author feels this form will prove to be a subspecies.

COMPARISONS: This form differs considerably from other subspecies of *S. variegatoides*. The greatest resemblances between *S. v. loweryi* and *S. v. dorsalis* are in the tawny coloration of the under parts, richer in *S. v. loweryi*, and the broad black dorsal area extending from the head to the base of the tail. *Sciurus v. loweryi* differs from *S. v. dorsalis* in being slightly smaller, lacking white hairs on the body, and in having the black median dorsal area mottled with tawny, never white. The known ranges of *S. v. dorsalis* and *S. v. loweryi* are separated by approximately 170 km, where two subspecies, *S. v. rigidus* and *S. v. melania* occur.

Additional information on *S. v. melania* has also been collected and specimens indicate the range extends northwest along the Pacific coastal lowlands of the Valle de Parrita. It is here suggested that this subspecies ranges to the mountains south of the valley of the Río Grande de Tárcoles where it intergrades with *S. v. rigidus*. Specimens of *S. v. melania* vary in color in the Valle de Parrita. Some specimens are black but others have a cinnamon-brown patch on the dorsum. Specimens of *S. v. rigidus* from Caspirola, Province of San Jose, are darker than typical *S. v. rigidus*. This suggests intergradation between this form and *S. v. melania* on the Pacific slopes of the Fila Bustamante mountains.

REMARKS: This is a range extension of approximately 200 km for *S. v. melania*. The information herein thus shows *S. variegatoides* to be represented in the southwestern portion of Costa Rica by two subspecies. A detailed comprehensive report of Costa Rican rodents is in preparation.

LOCALITIES: Costa Rica, Province of Puntarenas. Type, Punta Burica, BM; Quepos, 1 LSUMZ; Parrita, Finca La Ligia, 1 LSUMZ, 4 LACM; Playa Río Parrita, 1 LACM; Sardinal, 2 LSUMZ; Surubres, 2 LSUMZ.

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SUMMARY

The addition of *S. v. loweryi* and *S. v. melania* to the squirrel fauna of Costa Rica clarifies the distributional hiatus which existed previously. *Sciurus v. loweryi* is a new subspecies from the Valle de Coto Brus and the Valle del General. It is a very distinctive tawny squirrel with a black dorsal stripe. *Sciurus v. melania* is now known from as far north as Parrita. It is an inhabitant of the Pacific coastal lowlands. Near the Río Grande de Tárcoles, *S. v. melania* intergrades with *S. v. rigidus*.

RESUMEN

Sciurus variegatoides loweryi n. ssp. es una ardilla de color leonado amarillento en el vientre y los costados, y en el lomo predominantemente negra; las manchas postauriculares son leonado amarillentas. La cola tiene dorsalmente pelo negro y blanco mezclado; en el lado ventral de la cola el pelo es pardo con bandas leonado y negro y las puntas blancas. La nueva subespecie fue colectada en el Valle de Coto Brus y en el Valle del General, entre la Cordillera de Talamanca y la Fila Costeña, Provincia de Puntarenas, Costa Rica.

El área de distribución de *Sciurus v. melania* se aumenta en 200 km, desde la frontera con Panamá hasta el Valle de Parrita, en las llanuras costaneras del Pacífico. En las cercanías del Río Grande de Tárcoles, *S. v. melania* presenta intergradación con *S. v. rigidus*, intergradación que aparentemente se repite en los Cerros de Bustamante.

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