MAMMALIAN SPECIES 841:1–4

Sciurus pucheranii (Rodentia: Sciuridae)

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Abstract: *Sciurus pucheranii* (Fitzinger, 1867) is a sciurid commonly called the Andean squirrel. This small tree squirrel has reddish brown pelage with a dark dorsal midline and is 1 of 28 species in the genus *Sciurus*. It is endemic to Colombia, South America, and is found in sub-Andean and high-elevation cloud forests of the Cordillera chains of the Andes Mountains. Deforestation within the range of *S. pucheranii* may negatively impact this species in the future. Currently the International Union for Conservation of Nature and Natural Resources lists *S. pucheranii* in the Data Deficient (DD) category. DOI: 10.1644/841.1.

Key words: Andes, cloud forest, sciurid, South America, tree squirrel

Published 25 September 2009 by the American Society of Mammalogists
Synonymy completed 20 June 2008

www.mammalogy.org

Sciurus pucheranii (Fitzinger, 1867)
Andean Squirrel

Sciurus rufoniger Pucheran, 1845:336. Type locality "Colombia, near Bogota;" "*Sciurus rufonigra*" preoccupied by Gray 1842:263.
Funambulus pucheranii Fitzinger, 1867:487. Replacement name for *Sciurus rufoniger* Pucheran, 1845.
Sciurus medellinensis Gray, 1867:431. Type locality "Medellin, Colombia."
Sciurus minor Alston, 1878:669. Type locality "Habite la Colombie (Santa-Fe de Bogota)."
Sciurus caucensis Nelson, 1899:79. Type locality "Rio Lima, near San Antonio, Western Andes, Colombia; altitude 6000 feet."
Guerlinguetus pucheranii: Allen, 1914:587. Name combination.
Leptosciurus pucheranii: Allen, 1915:202. Name combination.
Sciurus pucherani Ellerman, 1940:343. Incorrect subsequent spelling of *Funambulus pucheranii* Fitzinger, 1867.
Sciurus pucheranii: Hernández-Camacho 1957:219. First use of current name combination.
Microsciurus (*Leptosciurus*) *pucherani* Moore, 1959:203. Name combination and incorrect subsequent spelling of *Funambulus pucheranii* Fitzinger, 1867.

CONTEXT AND CONTENT. Order Rodentia, suborder Sciuromorpha, family Sciuridae, subfamily Sciurinae, tribe Sciurini (Steppan et al. 2004; Thorington and Hoffmann 2005), subgenus *Guerlinguetus* (Cabrera 1961). The genus *Sciurus* contains 28 species (Thorington and Hoffmann 2005). Eight species are recognized within *Guerlinguetus*: *Sciurus aestuans*, *S. gilvigularis*, *S. granatensis*, *S. ignitus*, *S. pucheranii*, *S. richmondi*, *S. sanborni*, and *S. stramineus* (Honacki et al. 1982; Thorington and Hoffmann 2005). The relationships of *Microsciurus* and *Sciurus* are contentious (Steppan et al. 2004) and *S. pucheranii* may be congeneric with *Microsciurus* (Alberico et al. 2000; Moore 1959). Three subspecies are currently recognized (Cabrera 1961; Thorington and Hoffmann 2005):

S. p. caucensis Nelson, 1899. See above.
S. p. medellinensis Gray, 1867. See above.
S. p. pucheranii (Fitzinger, 1867). See above.

Fig. 1.—Dorsal, ventral, and lateral views of prepared specimen of *Sciurus pucheranii* (female from Puerto Asis, Colombia; Museum of Vertebrate Zoology, Berkeley Natural History Museum; specimen 124045). Photographs by C. Conroy.

Fig. 2.—Dorsal, ventral, and lateral views of skull and lateral view of mandible of *Sciurus pucheranii* (female from Huila, Colombia; The Field Museum, Chicago, Illinois; specimen 71113). Greatest length of skull is 42.6 mm. Photographs provided by B. Patterson.

Nomenclatural Notes. The English and Spanish common names for *Sciurus pucheranii* are Andean squirrel (Wilson and Cole 2000) and ardillita de los robledales (Rodriguez-Mahecha et al. 1995), respectively. Pucheran 1st described *S. pucheranii* as *S. rufoniger* in 1842. This name was already in use and was changed to *pucheranii* by Fitzinger in 1867 (Allen 1915). As many as 4 subspecies of *S. pucheranii* have been recognized in the past: *S. p. caucensis*, *S. p. medellinensis*, *S. p. pucheranii*, and *S. p. santanderensis* (Allen 1915; Anthony 1923; Borrero-H. 1967; Ellerman 1940; Hernández-Camacho 1957). *Microsciurus santandarensis* was originally included as a subspecies of *S. pucheranii* but is now recognized as a separate species (Borrero-H. and Hernández-Camacho 1957; Hernández-Camacho 1960). *S. pucheranii* has been referred to as *S. aestuans caucensis* (Allen 1912) and *S. pucherani* in other publications (Alberico et al. 2000; Didier 1955; Ellerman 1940; Honacki et al. 1982).

DIAGNOSIS

Sciurus pucheranii (Fig. 1) may be sympatric with *S. granatensis* in portions of its range. Total length of *S. pucheranii* (324–341 mm) is smaller than that of *S. granatensis* (330–520 mm) and it lacks the strong infusion of red coloration found on the pelage of *S. granatensis* (Eisenberg 1989; Nitikman 1985).

The ranges of *Microsciurus flaviventer*, *M. santandarensis*, and *M. mimulus* approach that of *S. pucheranii* but do not appear to overlap. *S. pucheranii* inhabits higher elevations (2,000–3,000 m) than *M. flaviventer* (<2,000 m—Eisenberg 1989), *M. santandarensis* (100–1,000 m—Alberico and Rojas-Días 2002), and *M. mimulus* (0–1,600 m—Alberico and Rojas-Días 2002; Emmons and Feer 1997). The range of *M. mimulus* in Colombia is poorly known but the species is apparently replaced by *S. pucheranii* in higher montane regions (Eisenberg 1989).

GENERAL CHARACTERS

Sciurus pucheranii is a small tree squirrel measuring approximately 140 mm from nose to base of tail. Length of tail is approximately 120 mm (Eisenberg 1989). Ranges (n = 54) of external measurements (mm) were: total length, 258–350; length of tail, 119–160; length of hind foot, 35–48 (Allen 1914; Eisenberg 1989; includes unpublished measurements from JLK). Recorded weights include 100 g, 136 g, and 141 g (Allen 1912).

Sciurus pucheranii has reddish brown dorsal pelage with darkly tipped hairs demarcated by a dark lateral midline with a gray or yellow venter (Allen 1914; Eisenberg 1989; Hernández-Camacho 1957). Some individuals, particularly animals in the southern range of the species, may demonstrate a dark middorsal line (Allen 1915; Hernández-Camacho 1957). Dorsal and ventral hairs of the tail are

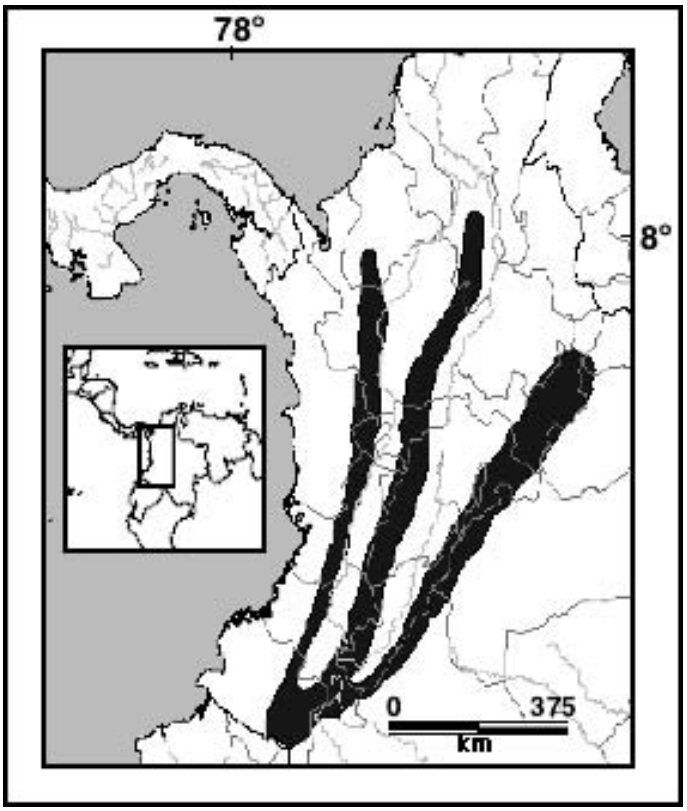

Fig. 3.—Geographic distribution of *Sciurus pucheranii* (modified from InfoNatura [2004]).

black with white tips and gray to black with white tips, respectively (Allen 1914). Some individuals exhibit a patch of black fur on the posterior portion of the crown (Hernández-Camacho 1957). Body fur is soft and thick (Allen 1914) and the ears are sparsely furred (Eisenberg 1989).

Ranges (mm) of cranial measurements (Fig. 2) from 9 specimens were: total length of skull, 38.1–44.5; zygomatic breadth, 22.2–26.2; interorbital breadth, 12.5–14.0; breadth of braincase, 15.2–20.0; length of nasals, 11.0–12.0; diastema, 8.9–10.8; and length of maxillary toothrow, 6.0–7.3 (Gray 1867).

DISTRIBUTION

Sciurus pucheranii is endemic to Colombia, South America, and inhabits the Cordillera Occidental, Cordillera Central, and Cordillera Oriental chains of the Andes (Fig. 3; Cabrera 1961; Hernández-Camacho 1960). The species inhabits elevations between 2,000 and 3,300 m (Alberico and Rojas-Días 2002). No fossils are known.

FORM AND FUNCTION

Sciurus pucheranii has 6 paired mammae (Allen 1915; Hernández-Camacho 1957). The baculum of *S. pucheranii* is

Fig. 4.—Lateral view of a baculum of *Sciurus pucheranii* from Acevedo, Huila, Colombia (drawing modified from Didier [1955]).

elongated and twisted laterally with a slight ridge in the middle (Fig. 4). The hatchet end of the baculum is wider than high and the dorsal point is dull. The "spur" is short and relatively sharp compared to other *Sciurus*. The contour of the proximal end is irregular (Didier 1955). The ranges of baculum measurements (mm) were: length, 7.3–8.5; proximal width, 2.2–2.7; distal width, 2.0–2.5; and smallest width, 0.9–1.1 (Didier 1955).

Dental formula is i 1/1, c 0/0, p 1/1, m 3/3, total 20 (Ellerman 1940). There are 2 prominent cusps with obsolete intervening cusplets on the outer borders of the upper molar crowns (Allen 1915).

ECOLOGY

Sánchez et al. (2004) observed *Sciurus pucheranii* within sub-Andean and Andean forests of the Cordillera Central in Colombia. Sub-Andean forests (2,200–2,350 m) are characterized by tall trees (≤ 35 m), underdeveloped grasses, and few epiphytes. Trees are clumped and often concentrated around water sources. *Cecropia teleincana* is the dominant tree species. Higher Andean forests (2,350–3,500 m) are classified as cloud forests (Hernández-Camacho and Sánchez-Páez 1992) and have numerous vascular epiphytes but few vascular plants. Two main tree strata (5–15 m and 20–25 m) occur in the cloud forest. Understory vegetation includes the genera *Cyathea* and *Ceroxylon quindiuense* (Hernández-Camacho and Sánchez-Páez 1992; Sánchez et al. 2004) and reaches heights ≤5 m. *S. pucheranii* is diurnal (Sánchez et al. 2004).

CONSERVATION

Considerable amounts of deforestation and fragmentation exist in the Cordillera Central. Some attempts at reforestation, particularly with *Alnus acuminata*, in both the Cordillera Central and Cordillera Occidental are underway (Hernández-Camacho and Sánchez-Páez 1992). Specific effects of fragmentation and reforestation on *Sciurus pucheranii* are unknown and it is currently listed as Data Deficient (DD—International Union for Conservation of Nature and Natural Resources 2009).

ACKNOWLEDGMENTS

We thank Claire Zugmeyer for French translation. We thank James Patton, Eileen Lacey, Chris Conroy, and Bruce Patterson for help in specimen identification and photography.

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Associate editor of this account was ERIC RICKART. RYAN NORRIS reviewed the synonymy. Editor was MEREDITH J. HAMILTON.