

Sciurus richmondi. By J. Knox Jones, Jr., and Hugh H. Genoways

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Sciurus richmondi Nelson, 1898

Richmond's Squirrel

Sciurus richmondi Nelson, 1898:146. Type locality Escondido River, 50 mi. above Bluefields, Nicaragua (Nelson, 1899:100).

CONTEXT AND CONTENT. Order Rodentia, Family Sciuridae. The genus *Sciurus* is widely distributed in both the Old and New worlds. *S. richmondi* is a monotypic species closely related to *S. granatensis*; both species are members of the subgenus *Guerlinguetus*.

DIAGNOSIS. Upperparts nearly uniform dark brownish-ochraceous, underparts yellowish-buff to yellowish-orange, tail dark ochraceous above and tawny ochraceous in overall appearance ventrally. Skull small and broad (figure 1). Braincase inflated and arched postorbitally; bullae small.

GENERAL CHARACTERS. *S. richmondi* is a small squirrel that superficially resembles both *S. deppei* and *S. granatensis* in color. Ranges of external and cranial measurements (millimeters) of adults (Jones and Genoways, 1971:243) are as follows: total length, 320 to 391; length of tail, 151 to 184; length of hind foot, 45 to 55; length of ear, 18 to 25; weight (g), 208 to 284; greatest length of skull, 48.3 to 51.5; condylobasal length, 42.9 to 46.5; zygomatic breadth, 28.7 to 31.5; interorbital constriction, 14.9 to 17.5; postorbital con-

striction, 17.1 to 19.6; mastoid breadth, 20.1 to 23.7; length of nasals, 13.0 to 16.3; length of palate, 14.7 to 16.5; crown length of maxillary toothrow, 7.6 to 8.4. Of the measurements listed, significant secondary sexual variation was found only in zygomatic breadth, in which females are the larger. The dental formula is $i\ 1/1, c\ 0/0, p\ 1/1, m\ 3/3$, total 20.

We know of no illustrations of *S. richmondi* save that of the skull and lower jaw (figure 1) that accompanies this report.

DISTRIBUTION. *S. richmondi* is known only from the Caribbean drainage of Nicaragua. Recorded localities of occurrence are plotted in Figure 2 and were listed by Jones and Genoways (1971:245).

ECOLOGY. What little is known of the natural history of this squirrel was summarized by Jones and Genoways (1971). Evidently it occurs primarily in rain forests of eastern Nicaragua, although individuals have been collected from stream-side gallery forest in areas otherwise mostly cleared for agricultural practices. The occurrence of *S. richmondi* undoubtedly has been sharply restricted in places where mature rain forest has been removed. The species may not now occur in some areas in the western part of its former range owing to the activities of man. Individuals regularly forage on the ground; in trees they are most often observed on the main trunk or on large, low branches, rarely high in the canopy. Near El Recreo, Nicaragua, many squirrels were observed in an experimental cacao plantation.

Pregnant females carrying two or three fetuses have been taken in February, April, and June, and lactating females have been obtained in June and September. Ten adult males collected between 19 and 25 June 1967 had testes that averaged 26.1 (23 to 33) mm in length; two taken in late February and another in early August also had enlarged testes (20, 22, and 23 mm, respectively). Juveniles are on record from April, June, and July. "Reproductive data indicate that *S. richmondi* has a relatively long breeding season that extends at least from the middle of February until the middle of September"

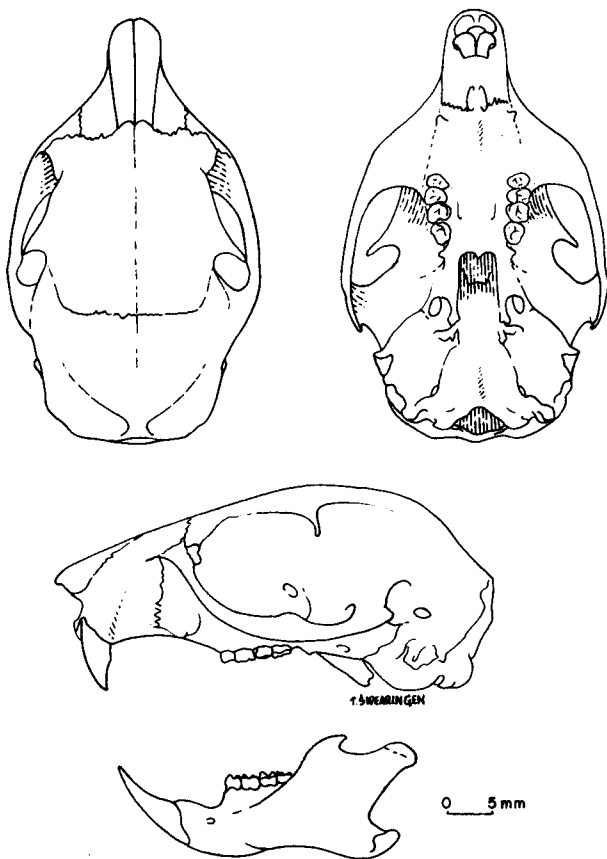


FIGURE 1. Dorsal, ventral, and lateral views of skull, and lateral view of lower jaw, of *Sciurus richmondi* (KU 110287, male) from El Recreo, S side Río Mico, Zelaya, Nicaragua.

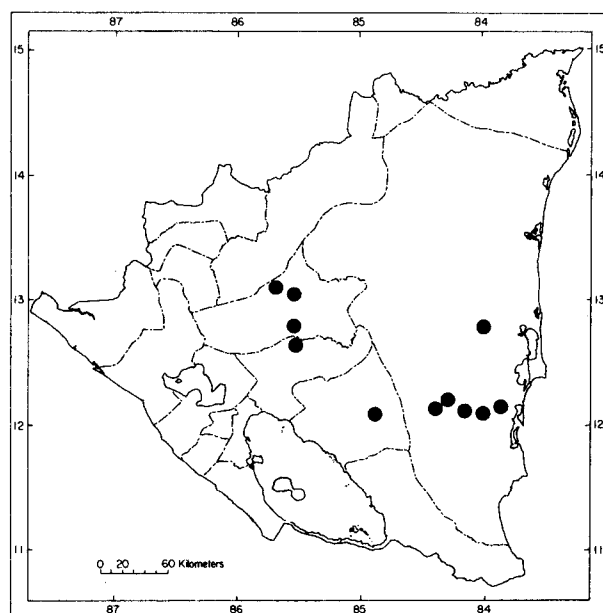


FIGURE 2. Known localities of record in Nicaragua of *Sciurus richmondi* (after Jones and Genoways, 1971:244).

(Jones and Genoways, 1971:245). No data are available for other times of the year.

Adult *S. richmondi* may undergo two seasonal molts annually. Molt from one adult pelage to another was evident on specimens taken in late February and March (five of 11 examined), mid-June to early July (eight of 23), and early October (two of three). No molt was observed on specimens taken in mid- and late summer or in November and December. Molt of adults evidently begins in the middorsal region and proceeds anteriorly and posteriorly as well as ventrally.

Lice of the genus *Neohaematopinus* (Emerson, 1971) and ticks of the genus *Amblyomma* were found on *S. richmondi* in the summer of 1967.

REMARKS. As noted, *S. richmondi* is closely related to *S. granatensis*, which occurs from Costa Rica southeastward into South America, and the two may be found to represent a single species. Nelson (1898:147) supposed it "probable" that the two intergraded. Jones and Genoways (1971:242), however, were "reluctant at this time to consider *richmondi* as a subspecies of *granatensis*," because the former is uniformly smaller, both externally and cranially, somewhat less richly colored overall, and has conspicuously paler bands on the hairs of the tail (tawny ochraceous as opposed to fulvous or buffy orange).

The type locality of *S. richmondi* was listed simply as "Escondido River, Nicaragua" in the original description (Nelson, 1898:146). Later, Nelson (1899:100) recorded the place along the Río Escondido as "50 miles above Bluefields." According to the original collector, Charles W. Richmond, for

whom the species is named, the series containing the holotype came from the I. P. Plantation, which on modern maps is located 3 km S and 13 km E Rama, Nicaragua.

Aside from that cited previously, the only primary literature containing references to *S. richmondi* are two papers by Allen (1908, 1910) in which several specimens were mentioned.

LITERATURE CITED

- Allen, J. A. 1908. Mammals from Nicaragua. Bull. Amer. Mus. Nat. Hist., 24:647-670.
 — 1910. Additional mammals from Nicaragua. Bull. Amer. Mus. Nat. Hist., 28:87-115.
 Emerson, K. C. 1971. Records of a collection of Mallophaga and Anoplura from Nicaraguan mammals. J. Kansas Ent. Soc., 44:332-334.
 Jones, J. K., Jr., and H. H. Genoways. 1971. Notes on the biology of the Central American squirrel, *Sciurus richmondi*. Amer. Midland Nat., 86:242-246.
 Nelson, E. W. 1898. Descriptions of new squirrels from Mexico and Central America. Proc. Biol. Soc. Washington, 12:145-156.
 — 1899. Revisions of the squirrels of Mexico and Central America. Proc. Washington Acad. Sci., 1:15-110.

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