

Notes on the distribution, behaviour and first description of the nest of Russet-bellied Spinetail *Synallaxis zimmeri*

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Cotinga 16 (2000): 90–93



El coliespina de pecho canela *Synallaxis zimmeri* es un ave endémica peruana conocida de tres localidades de la Cordillera Negra en el Perú central (09°27'S–09°53'S). Entre 1985 y 1988 fue encontrada en cuatro bosques nublados secos, ampliándose marcadamente el rango de distribución de la especie (07°42'S–10°03'S). En el bosque de Noqno (10°03'S 77°40'W, 2,850 m), dpto. de Ancash, se encontró una población bastante numerosa de este coliespina y tres nidos, uno de ellos con pichones. El nido ocupado estaba ubicado a 4.2 m de altura entre ramas de *Sebastiania obtusifolia* y *Myrcianthes quinqueloba*. El nido es construido de ramitas espinosas entrelazadas y consta de tres partes. La primera es casi globular, de 26 cm de diámetro y contiene la cámara principal. La segunda parte es una extensión lateral de 20 cm de longitud y 8 cm de diámetro, formando el túnel de ingreso. La tercera, de 18 cm de diámetro, es una estructura globular construida de ramitas más gruesas entrelazadas con menor cuidado. La base de la cámara principal está acolchada con restos de hojas, principalmente nervaduras. Se realizaron observaciones del comportamiento de la hembra en las cercanías del nido durante un día. En el contenido de ocho estómagos se encontró que en promedio el 70 % del volumen consistía de insectos, de los cuales 28% eran insectos alados. Todos los estómagos contenían pequeños arácnidos (11% en promedio) y algunos presentaban también material vegetal parcialmente digerido, pequeñas semillas y plantas diminutas.

Introduction

Russet-bellied Spinetail *Synallaxis zimmeri* (Fig. 1), a little-known Peruvian endemic furnariid, is the only *Synallaxis* to occur on the west slopes of the Andes south of 08°S¹¹. It is confined to a very small area of west-central Peru^{1,2,5,6} and is considered threatened owing to habitat destruction by cattle-grazing and farm expansion¹, a situation heightened by its restricted distribution. The only published natural history information consists of brief descriptions of voice, foraging and habitat².

Distribution

Published records are from just six localities (Fig. 2), all in the Cordillera Negra, dpto. Ancash (for abbreviations see below): 1) ridge of cerro Quitacruz and the east side of Quebrada de río Seco (09°39'S 77°47'W, 2,830–2,900 m), above Chacchan on the right bank of the Casma Valley, where seen and recorded in August 1983¹; 2) near Colcabamba (09°36'S 77°49'W, 2,800–2,900 m) on the left bank of the Casma Valley, where the type and two paratypes (in MUSM and ZFMK) were collected in August 1956⁴; 3) Bosque San Damián (09°53'S 77°47'W, 1,830–2,300 m), above San Damián, on the right bank of the Huarney Valley where three, including a paratype (in MUSM and AMNH) were collected in September 1956⁴, four were taken in April 1980 (in LSMUZ), and observations made in 1985¹; 4) above Cochabamba (09°41'S 77°52'W, 2,600 m), on the north side of the Casma Valley, where one was collected in June 1985 (in MUSM) and several observed in September 1985¹; 5) Winapajatu below San Juan (09°41'S 77°52'W,

2,600 m), on the left bank of the Culebras Valley, where four were taken in November 1985¹; 6) Bosque de Noqno near Pararin (10°03'S 77°40'W, 2,850 m), on the left bank of the Cotaparaco Valley, a southern affluent of the rio Huarney, where six were collected in May 1988¹.

We found Russet-bellied Spinetail at localities 4–6 while undertaking avifaunal studies of small patches of dry cloud forest in the western Andes³. These sites were not traced by Collar *et al.*¹. We also found it at a new locality, in forest near Llaguén (07°42'S 78°44'W, 2,650 m, Fig. 2), dpto. La Libertad, where two specimens (in MUSM) were taken in November 1988. Its discovery at Llaguén extends the latitudinal range, from 09°27'S–09°53'S to 07°42'S–10°03'S. The extension is especially marked to the north, 217 km beyond the Cordillera Negra. It may be more widespread than previously thought as intensive field work has not been undertaken in this area.

Synallaxis zimmeri is rare in collections, and thus little material is available for studies. We know of only 21 specimens, all study skins. Most (15) are at the Museo de Historia Natural de la Universidad de San Marcos, Lima (MUSM), with others at the Museum of Natural Science of Louisiana State University (LSUMZ, four), American Museum of Natural History (AMNH, one) and Museum Alexander Koenig, Bonn (ZFMK, one). Two of the specimens held in Lima are juveniles, a plumage that is reportedly undescribed². They were collected at Noqno in May. Their plumage does not differ from that of adults, although the bills are shorter and pale coloured.

Ecology

Russet-bellied Spinetail was relatively scarce at Llaguén and Cochabamba. At Wiñapajaturu it was more common and at Noqno, in May 1988, abundant. It was observed singly, in pairs or family groups, and it was common to see two or three individuals wandering from bush to bush. We never observed it associating with *Leptasthenura* or *Cranioleuca* spp. as described by Koepcke⁴, although these were present. Few were seen within denser forest, in *Escallonia resinosa* and *Myrcianthes quinqueloba* trees. Most appeared to prefer more open areas with tall bushes surrounding dry cloud forests. This vegetation is described as arid montane scrub⁹, montane scrub⁷ and *Croton* scrub¹. *Croton* is generally common within scrub formations where the spinetail occurs, but is not always the most abundant or dominant species, and it can be scarce, as at Cochabamba¹⁰. In areas where we observed the spinetail, vegetation consisted largely of the shrubs *Acca*, *Berberis*, *Cestrum*, *Cordia*, *Croton*, *Dasyphyllum*, *Duranta*, *Hesperomeles*, *Randia*, *Sebastiania* and *Solanum*¹⁰. Shrub and forest vegetation usually occurs at 2,000–3,100 m on the west slope of the Andes in central Peru. Koepcke⁴ and Stotz *et al.*⁹ state that Russet-bellied Spinetail occurs at 1,900–3,000 m. All specimens and sight records have been at 2,100–2,900 m. It may occur at slightly lower and higher elevations, but is certainly most frequent at 2,500–2,800 m.

Synallaxis zimmeri was most often observed searching for insects along branches of shrubs and small trees, c. 1.5 m above ground. However, it also moved through dense undergrowth, feeding low in the vegetation or on the ground by hopping, scratching and investigating plant debris, as reported for other *Synallaxis*^{8,11}. The contents of eight stomachs were examined. A mean volume of 70% consisted of insects. One contained only 22% insects, but all others held 51–90%. Winged insects made up a mean of 28%. All contained small arachnids (mean 11%; range 1–25%). Six also contained partially digested plant material, small seeds and tiny plants. Such material was usually present in small quantities, but in one stomach represented 70% of the contents.

A few interactions between individuals were observed at Noqno. They consisted mainly of a rapid flight to chase another individual, followed by a very brief flight to a perch. These may have been territorial disputes. Only one occupied nest was found, but from the number of fledglings and juveniles present in the area, it was evident that the species was at the end of its breeding season.

Description of the nest

On 25 May 1988, at Noqno, we found two nests (Fig. 3), one occupied. The nestlings were readily audible and the female visited the nest frequently. A male, apparently the mate of the female attending

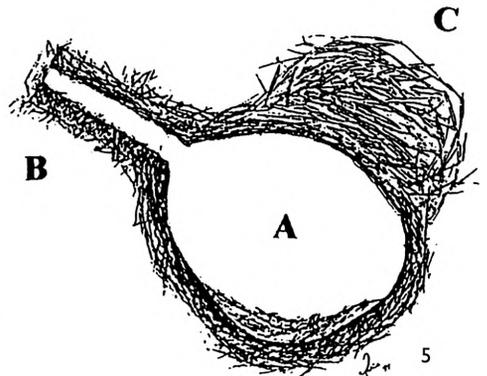
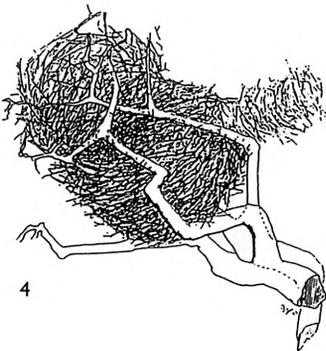
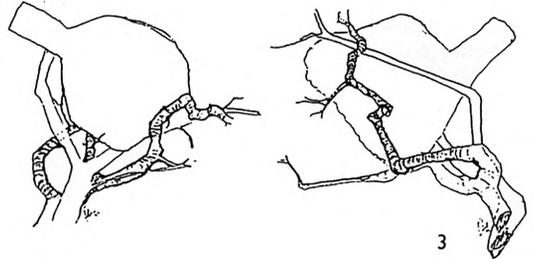
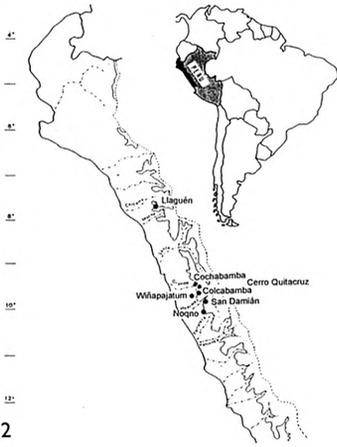
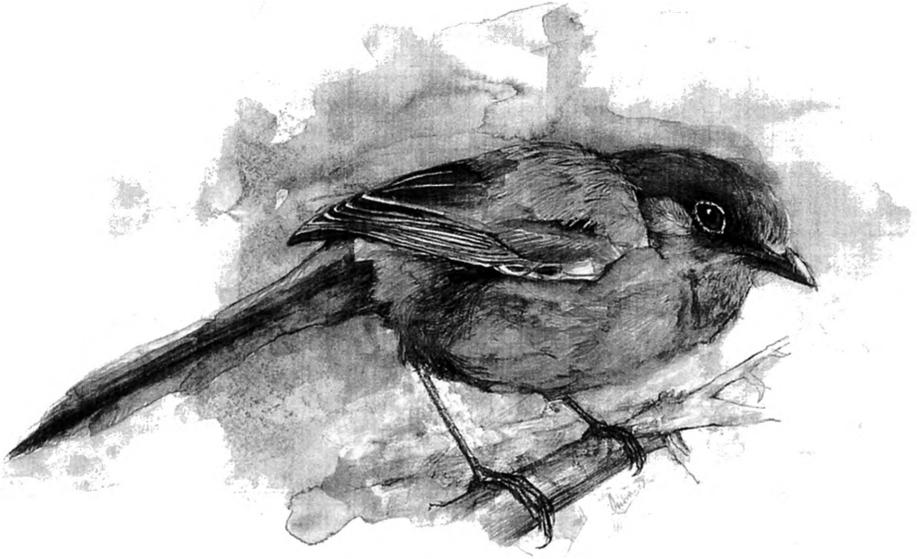
the nest, was collected before the nest was noticed. Observations of the female were made that afternoon and following morning, until the young left the nest (see below) and could not be re-found. In the hope of obtaining more complete information, we made the observations trying to disturb the female as little as possible and did not notice that the nestlings were ready to fledge. The nestlings were thus not examined or counted, but there were at least two, based on vocalisations emanating from the nest. Both nests were collected on 28 May. The empty nest was opened in the field to examine the interior, and the occupied nest deposited at the Museo de Historia Natural, Lima. On 29 May we found a third nest, abandoned and in good condition, that was not collected.

The occupied nest was 4.2 m above ground, on a branch crossing of the tall shrub *Sebastiania obtusifolia* and 'calatillo' *Myrcianthes quinqueloba*, the most abundant tree in this forest (Fig. 4). The two abandoned nests were at 3.5 m on *Sebastiania obtusifolia* and 3.95 m on *Myrcianthes quinqueloba*. All three were in denser forest. *Synallaxis zimmeri* seems to spend most of its time in more open areas, but prefers denser forest for breeding.

The nest is of interwoven thorny twigs and sticks, with spines up to 5 cm long, and consists of three parts (Fig. 5). The main part is nearly globular, 26 cm in external diameter, with walls 4 cm thick. Inside, the main chamber is 20 cm in diameter. Its bottom has a shallow cup, 4 cm in diameter, lined mainly with old leaf veins, with the appearance of a feathery lining. Attached to the first part there is a lateral extension 20 cm long and 8 cm in external diameter, through which a tunnel leads to the chamber. The entrance tunnel, 4 cm in diameter, opens directly at the extension's distal end. The third part is also nearly globular, 18 cm in diameter, of thicker twigs, less carefully interlaced and it is not hollow; its use is unknown.

The abandoned nest was examined in the field. It had the same general features as the nest just described, but inside the main chamber a small cup-shaped nest was found, on top of the shallow original cup. It was of very fine materials carefully interlaced. It measured 14 cm in external diameter, 6 cm internal diameter and was 5 cm deep. This indicates that abandoned *Synallaxis* nests may be re-used by other species.

The female's behaviour at the nest was recorded on 25 May, from 15h40 to 18h00, when it entered the nest to roost and next morning, from 06h30 to 09h00. It was not especially wary, approaching the observer to within 0.5 m while foraging, noticing the observer and continuing apparently undisturbed. It fed by hopping along branches, low down, very often directly on the ground where it scratched and investigated dry leaves. Most foraging was within the vicinity of the nest, and it left the area



for mean periods not longer than 10 minutes. It frequently uttered its typical snarling *quick-quick*, answered by the nestlings with a loud chattering trill. Once prey was obtained, the female visited several perches before approaching the nest. Visits were very brief and frequent. On 26 May, 28 visits were recorded between 06h50 and 08h23, all lasting 2–5 seconds. At 08h28 a change in the voice of the nestlings was noticed. The typical and loud chattering trill turned into a very soft version of the adult song. At c.09h00, during a brief absence of the observer, the family fledged from the nest.

Acknowledgements

We thank Niels Valencia, César Arana, Gabriel Ballón, Cecilia Fox and all the students who collaborated in our field work, which was supported by Concejo Nacional de Ciencia y Tecnología, Lima (CONCYTEC) and the International Foundation for Science, and Julia Salinas for the drawings.

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Figure 1. Russet-bellied Spinetail *Synallaxis zimmeri* (Julia Salinas).

Figure 2. Western Peru showing the seven localities from which Russet-bellied Spinetail *Synallaxis zimmeri* is known.

Figure 3. Sketch of two nests of Russet-bellied Spinetail at Noqno forest, west-central Peru, on 25 May 1988.

Figure 4. Sketch of the described nest of *Synallaxis zimmeri* on a branch crossing of the tall shrub *Sebastiania obtusifolia* and the tree *Myrcianthes quinqueloba* 'calatillo'.

Figure 5. Sketch of the structure of the nest of *Synallaxis zimmeri*. A: main part of the nest containing the main chamber. B: tunnel leading to the main chamber. C: third part of unknown use.