

**NOTES ON THE NEST OF THE STRIATED SOFTTAIL  
 (*THRIPOPHAGA MACROURA*), WITH COMMENTS ON A NEST OF  
 PLAIN SOFTTAIL (*T. FUSCICEPS*) AND RELATIONSHIPS OF THE  
 GENUS BASED ON NEST ARCHITECTURE**

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**Notas sobre o ninho do Rabo-amarelo (*Thripophaga macroura*), com comentários sobre um ninho do João-liso (*Thripophaga fusciceps*) e as relações do gênero com base na arquitetura do ninho.**

**Key words:** *Thripophaga macroura*, *Thripophaga fusciceps*, Striated Softtail, Plain Softtail, nest, relationships.

INTRODUCTION

The Striated Softtail (*Thripophaga macroura*) is an endemic and globally threatened (categorized as endangered) furnariid of the Brazilian Atlantic forest, from east-central Bahia south to northern Rio de Janeiro (Sick 1997, BirdLife International 2000). Few data are available concerning its breeding biology. Coliar *et al.* (1992) mentioned nests from Espírito Santo in September/October and December, and recorded that the structure is ball-shaped and consists of dry twigs (possibly sometimes rootlets) placed on the attenuated limbs of c. 10 m trees in virgin forest or on isolated trees nearby. Sick (1997), in describing several genera and species of furnariids, mentioned the general characteristics of the nest as a collection of hard, dead sticks, with one or two chambers and a tunnel entrance. The genera

*Acrobatornis*, *Anumbius*, *Certhiopsis*, *Coryphistera*, *Phacellodomus*, *Pseudoseisura*, *Synallaxis* and *Schoeniophylax*, as well as Stripe-crowned Spinetail (*Cranioleuca pyrrhophia*) and the Striated Softtail are noted as having some similarities in their general nest design and structure (Sick 1997). More recently, Lima *et al.* (2002) briefly described two nests, one under construction and the other being refurbished, discovered in southern Bahia in early May 2002. Here, we report on four nests of the species from Bahia and Espírito Santo, point to some discrepancies in the available data, and place these in the context of available information on nesting data for this genus and previous systematic works based on nest data.

NEST DESCRIPTIONS

On 19 and 20 August 2002, JMB and Marco

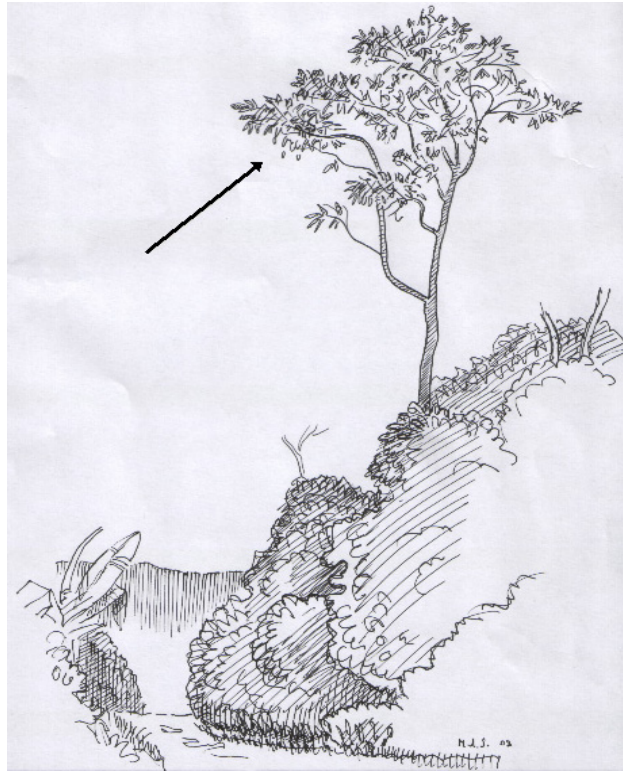


FIG 1. Schematic representation of the position of Striated Softtail (*Thripophaga macroura*) nest found in August 2002 in Boa Nova, Bahia, Brazil. The arrow points at the nest. The January 2000 Sooretama nest was similarly placed.

della Seta observed a nest east of Boa Nova in the Serra da Ouricana region of Bahia, a regular locality for the species (Wege & Long 1995, pers. observ.). The nest (observed through binoculars and telescope) was found as the pair was actively constructing it. It was > 12 m high, in a > 15 m tree, slim and sparsely foliated, by a roadside, in an area of secondary forest with overgrown scrub nearby, as well as taller regenerating forest. The nest tree was in broken terrain, on a steep slope (c. 50°). It was placed near the tip of a thin horizontal branch close to the edge of the crown, and was thus rather exposed. Figure 1 presents a schematic representation of this nest's location. The nest was posi-

tioned at the point of a horizontal branch, where it forked, and where each fork contained multiple twigs, being supported by the main branches, with parts of the nest appearing to overflow from the side of these branches, and was presumably interwoven around the smaller twigs. It was a flattened ball, c. 25–30 cm across, and c. 20–25 cm high, constructed of fine grassy fibers, some thicker, with some moss in the lower surface, and no dead leaves (Fig. 2). All materials appeared soft, and no twigs or sticks were noted. It had a short entrance tube (c. 3–5 cm long) below one side of the structure, hanging downwards and formed by a lapel-like feature that surrounded the entrance hole. The adults



FIG 2. Nest of Striated Softtail (*Thripophaga macroura*) found in August 2002 in Boa Nova, Bahia, Brazil. At least the September 2003 Sooretama nest was very similar to this.

hung upside-down from this structure before entering the nest. Many long fibers hung from the roof, giving the nest an untidy appearance, and an overall pale brown coloration.

At 14:45 h of the first day, only one individual was noted building the nest, following some heavy rain showers. The nest was apparently in the final stages of construction, because all material was being carried into the chamber, possibly to line the inner walls or to layer the incubating chamber. The bird searched for material in roadside secondary growth. It mainly picked fibers from a hanging dead banana leaf, then slid down the stem to remove long strips (> 50 cm) of fiber from

the leaf, and flew towards the nest. The bird systematically followed the same route to the nest, through some dense bushes, but when departing, it flew directly away, almost vertically downhill into the forest border on the opposite side of the road. The following morning, both members of the pair carried material into the nest, at around 07:00 h. At one point an individual was heard calling from inside the nest.

Subsequently, on 25 October 2002, GMK and others discovered another nest of the species in the same general area of the Serra da Ouricana. This nest was constructed in an isolated tree, also only sparsely foliated, on level

ground, in a semi-cleared area within 50 m of selectively logged forest, and was situated approximately 20 m above the ground, within the tree's crown. Thus, like the first nest, it was very obvious and easily observed. The structure was ball-like, with a slightly flattened roof, and appeared to consist almost entirely of very small, dry twigs and rootlets bound with fibres and mossy vegetation, and was placed within the crux of a multiple-branch fork of the main vertical trunk. This nest too appeared to overflow from the sides of the branches supporting it. An adult arrived and entered the nest shortly after its discovery, via the entrance tube positioned in the lower part of the structure on the far side of the tree from the observers, and the bird did not reappear within the next c. 30 min.

We also found an active nest in January. On 27 January 2000, GMK and collaborators observed a nest within the Reserva Biológica de Sooretama, Espírito Santo (another regular locality for the species; Collar *et al.* 1992, pers. observ.). This nest was somewhat different, being constructed in a canopy-height tree (c. 35–40 m) but at least 10 m from the main trunk on a long, horizontal branch, being placed within a network of smaller branches towards its end, and c. 25 m above ground. As for above-described nests, this one principally consisted of very small, dry twigs but had a rather uneven shape [not wholly dissimilar to the overall shape depicted for a nest of Rufous Cachalote (*Pseudoseisura cristata*) on p. 559 of Sick (1997), although the entrance tube was positioned in the lower part of the nest and pointed downwards], certainly not ball-like. At least two adults appeared to be attending the nest; given the degree and nature of the adults' activity, as they appeared to be transporting food within, the nest must have contained young.

At the same locality, in early September 2003, A. Lewis *et al.* (pers. com.) located another nest in the same general area, which

was further observed by GMK on a daily basis, between 6 and 9 October 2003. The nest, which was approximately 25 m above level ground in tall, primary forest, was situated within 2–3 m of the main trunk in a largely leafless, 40 m tree, and very obvious to the naked eye. It was attached/supported by four or five rather long, vertical branches (each probably just a few cm in circumference) and some distance from the nearest large branches of the tree. Its structure was similar to the two Boa Nova nests described above, with a flattened ball shape and a short, slightly angled and downward-pointing entrance tube on the underside. It was principally constructed of rather soft fibers, some obviously fresh, the longest being attached to the roof, with apparently very few dead twigs or other woody vegetation. Its overall coloration was pale brown, and its dimensions appeared similar to those of the above-described Bahian nests. In early September, the nest was apparently still under construction, and was defended by the adults against a Pale-browed Treehunter (*Cichlocolaptes leucophrus*) which attempted to steal some nest materials. By early October, however, there was no obvious activity at the nest.

## DISCUSSION

There seems to be a certain level of disagreement among the available descriptions of the nests of the Striated Softtail. Collar *et al.* (1992) and Sick (1997) mentioned structures of dry twigs, similar to that found by GMK. However, that found by JMB, in Boa Nova, and the second Sooretama nest, appear to be almost identical to that described by Lima *et al.* (2002), in that they consisted solely or almost entirely of soft material. The brief description provided by Whitney *et al.* (1996) mentioned small twigs and flexible vegetable material as the constituents. The account of the species' breeding biology by Collar *et al.*

(1992) was partially based on personal communications from Whitney. Perhaps the nest found by JMB also contained thin pliable twigs, but a layer of soft material may have obscured them. Regarding timing of the breeding cycle, the available information is heterogeneous, with nests reported from the August–January period (except November; Collar *et al.* 1992, this study), and nest building reported in May, August and September (Lima *et al.* 2002, this study). At any rate, it is difficult to judge whether nest-building could be used in this case as indicative that the birds were actually breeding (Narosky *et al.* 1983, R. Fraga pers. com.).

Nest architecture within the Furnariidae is important in determining systematic relationships (von Ihering 1914, Vaurie 1980, Ridgely & Tudor 1994, Remsen 2003); it was even used in a cladistic analysis of the family (Zyskowski & Prum 1999). Throughout the history of furnariid classifications, the genus *Thripophaga* has been expanded or shrunk to include a varying array of taxa.

Vaurie (1980) subsumed the genus *Asthenes* within *Thripophaga* (of which *macroura* is the type) with a resulting assemblage of 24 species. However, the heterogeneous *Asthenes* (of which some species do share a small number of plumage characteristics with true *Thripophaga*) appear only distantly related to the latter (see Ridgely & Tudor 1994). *Asthenes* species build nests of a variety of shapes, on various strata, and using various types of materials (Narosky *et al.* 1983, Whitney *et al.* 1996, Zyskowski & Prum 1999), all differing considerably from those of true *Thripophaga*.

Peters (1951), followed by Ridgely & Tudor (1994), considered *Thripophaga* to consist of four species and six taxa: the Striated Softtail in southeast Brazil, the Orinoco Softtail (*T. cherriei*) in Amazonian Venezuela (BirdLife International 2000, Hilty 2003), the Plain Softtail (*T. fusciceps*) disjunctly in northeast Ecuador and adjacent northeast Peru (*T.*

*f. dimorpha*), southeast Peru to northern Bolivia (the nominate race) and along the Amazona river in eastern Amazonian Brazil (*T. f. obidensis*), and the Russet-mantled Softtail (*T. berlepschi*) in the Andes of northern Peru. Although they acknowledged that this grouping might not be monophyletic, Ridgely & Tudor (1994) preferred to continue to include *fusciceps* and *berlepschi* within *Thripophaga*, in accordance with Meyer de Schauensee (1966) and Parker *et al.* (1996), but unlike Vaurie (1980), who transferred both to *Phacellodomus*.

Evidence for inclusion of *fusciceps* and *berlepschi* in *Thripophaga* is rather weak and is based primarily on their sharing broadly rounded, unpointed rectrices and a similar biogeographic pattern in being rare and local. Though almost nothing is known about the Orinoco Softtail [Colvée (2000) provided the first field observations of this species], it seems to share some plumage similarities with the Striated Softtail. The nest of the Russet-mantled Softtail is also apparently unknown (BirdLife International 2000), but its behavior, as described by M. Robbins in Ridgely & Tudor (1994), is apparently reminiscent of a *Cranioleuca*, a comparison we would not make of Striated Softtails. Like the Russet-mantled Softtail, the Plain Softtail is a poorly known and rarely encountered bird, and little has been published on its breeding biology. Its nest was briefly described as similar in shape, size, materials and position to that of the Striated Softtail (Whitney *et al.* 1996), and indeed there are elements that unite them. A nest of Plain Softtail found near Trinidad, dpto. Beni, Bolivia, on 29 July 1999 (JMB pers. observ.) was apparently used for roosting during that season; it was also placed near the periphery of the crown of a sparsely foliated tree. It was supported within a main vertical fork by several secondary branches, and was constructed of soft materials, such as grasses, fibers, shredded barks, some dead leaves and palm fibers. It was a globular structure, 25–30 cm

across, and 25–30 cm high, with a broad, short entrance tube situated on the lower part of the nest, as if folded onto itself, with a lateral entrance (as a secondary exit), and appeared dry yellowish. Few strips of vegetation hung from the nest. Two clumps of accumulated material on the top of it obscured its shape, and probably each of them secured the nest to a fork. The main differences between this and the reported nests of Striated Softtails appear to be the variety of materials used, the type and shape of the entrance tube, the quantity of hanging material, and its general shape.

Though Zyskowski & Prum (1999; Appendix) possessed information concerning the nest of Striated Softtails, this was evidently insufficient to be coded in their analysis, and the only *Thripophaga* species included in their study was the Plain Softtail, for which information was available mainly from personal communications. In their analysis, the Plain Softtail fell within a rather heterogeneous clade, diagnosed by a single synapomorphy character, a nest considered as pensile. Based on our personal experience (see above), we would not describe the nest of the Plain Softtail as pensile, and certainly that of the Striated Softtail does not conform to this description; both are supported from below. Zyskowski & Prum (1999) further characterized the Plain Softtail by an autapomorphy character, the nest entrance considered as double. Although we did observe this feature, it was not as described by these authors, in that the tubes were not upward pointing but downward, from a lower surface. None of the reported nests of Striated Softtails appeared to possess this character. With the still limited data available, it is difficult to judge to what extent the similarities and differences reported in the nest architecture of the two *Thripophaga* species whose nests are known reflect phylogenetic proximity or otherwise. Also, until the nests of other *Thripo-*

*phaga* species are described, further relationships within the genus and other genera remain a matter of speculation. The analysis of other characters would probably assist in the delimitation of this group.

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