Revista Brasileira de Ornitologia, 16(3):246-249
setembro de 2008

NOTA

First description of the nest of the Band-tailed Antshrike *Thamnophilus melanothorax*

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Recebido em 10/10/2007. Aceito em 15/08/2008.

RESUMO: Primeira descrição do ninho da choca-de-cauda-pintada *Thamnophilus melanothorax*. Em 10 de agosto de 2006 encontramos um ninho do *Thamnophilus melanothorax* (anteriormente em *Sakesphorus*) em Werephai, no sul do Suriname. O ninho consistia de uma taça aberta e profunda, suspensa pela sua borda na forquilha horizontal de uma árvore pequena *(Siparuna decipiens)* 1.6 m acima do chão. A taça foi construída com musgo vivo no exterior e rizomorfas de fungos (Marasmiaceae) no interior. Numerosos galhos e pecíolos cobertos com micélios brancos de um fungo foram encaixados nas paredes do ninho, fortificando a matriz de musgo e rizomorfas. Em geral, a arquitetura deste primeiro ninho conhecido para a choca-de-cara-pintada assemelha-se ao de outras espécies de *Thamnophilus,* com exceção do uso de galhos revestidos com micélios brancos, o que havia sido descrito previamente apenas para um congenérico *(T. schistaceus).* O ninho foi encontrado no estágio final de construção e foi coletado antes da postura de ovos.

PALAVRAS-CHAVE: choca-de-cauda-pintada, *Thamnophilus melanothorax, Sakesphorus melanothorax,* Thamnophilidae, Suriname, Maciço das Guianas, ninho, rizomorfas, fungos.

KEY-WORDS: Band-tailed Antshrike, *Thamnophilus melanothorax, Sakesphorus melanothorax,* Thamnophilidae, Suriname, Guiana Shield, nest, rhizomorphs, fungi.

Antshrikes of the genus *Thamnophilus* are insectivorous birds characteristic of forested and semiopen habitats throughout Central and South America. Nests of 18 out of 30 currently recognized species have been at least partially described (Zimmer and Isler 2003). They are typically hammock-like cups fastened by the rim to a horizontal fork in the outer branches of a tree or shrub, a type of nest architecture most prevalent in the family Thamnophilidae (Skutch 1996, Zimmer and Isler 2003).

Band-tailed Antshrike *(Thamnophilus melanothorax)* is among the more elusive members of the genus. It is found most reliably in the interior of the Guianas and the Brazilian territory of Amapá, where it occupies the understory of lowland evergreen forest, but it is nowhere common (Ridgely and Tudor 1994, Zimmer and Isler 2003, Robbins et al. 2007). This handsome, strongly sexually dichromatic species was originally described as *Thamnophilus,* but subsequently transferred to the genus *Myrmelastes* (now *Myrmeciza*), based on similarities in female plumage, and then to *Sakesphorus,* based mostly on male plumage characters (Cory and Hellmayr 1924). A recent phylogenetic study based on mitochondrial and nuclear DNA sequences (Brumfield and Edwards 2007) found this species embedded within a clade of 'solid-plumaged' *Thamnophilus* and, consequently, it has been returned to this genus (Remsen et al. 2007).

All aspects of natural history of the Band-tailed Antshrike are poorly known and there is nothing published on its breeding behavior. We studied this species in southern Suriname and were fortunate to find a nest under construction. Here we describe the architecture of the nest and compare it to those of congeners and other thamnophilid antbirds.

STUDY AREA AND METHODS

Band-tailed Antshrikes were discovered during an avifaunal survey of Werehpai (GPS coordinates: 2°22'40.1"N, 56°40'37.2"W), archeological site located on the Sipaliwini River, *ca.* 12 km ENE of the Amerindian village of Kwamalasamutu, and 48 km N of the Brazilian border. This site represents a new locality for Band-tailed Antshrike in Suriname, although Mees has reported this species previously from the vicinity of Sipaliwini village, *ca.* 75 km SE from Werehpai (Haverschmidt and Mees 1994).

The species was evidently rare at Werehpai. Between 1-15 August only two territorial pairs were detected and no individuals were captured despite a fairly intensive mist-netting regime (10 to 12 standard 12 m nets, open dawn to dusk, net locations changed every 3-4 days). The antshrike territories were located near the ends of a 3 km forest trail connecting the Sipaliwini River camp with the petroglyph rocks of the Werehpai archeological site.

The habitat around Werehpai was a primary mesophytic forest similar in structure and floral composition to the southern Guiana Shield forest sites that have been botanically characterized (Steege and Zondervan 2000). The canopy was 30-40 m high, sub-canopy rich in lianas and vine tangles, and the understory with abundant small palms and patches of bamboo locally along the river. Natural tree-fall gaps and a small human-generated clearing by the river camp were largely covered with dense second growth. Numerous forest creeks were intersecting the nearly flat terrain, except for the slightly elevated area of rocky outcrops at the east end of the trail. Band-tailed Antshrikes occupied the understory of primary forest in areas adjacent to small patches of dense second growth. The nest was located in an area of forest regeneration around a former archeological camp.

RESULTS

The nest was discovered on 10 Aug 2006 when, around noon, JCM observed a male Band-tailed Antshrike arranging materials inside a nearly complete open cup nest. The distinctive *karr karr* calls of the presumed female were heard nearby but she remained hidden in dense vine tangles and was not observed participating in nest construction. On 13 Aug the nest appeared complete but no birds were present during a half hour of observation. The nest site was revisited on 15 Aug, our last day in the area, and though a male was observed repeatedly in nearby vine tangles, the birds did not make an appearance at the nest in 2 h of waiting. The nest was subsequently collected and deposited at the Yale University Peabody Museum (YPM 136241). Although it is possible that the nest was abandoned soon after its initial discovery, it is also plausible that the female was not ready to lay eggs. In related species, it is not unusual for a finished nest to be left alone for several days before the first egg is laid (Haverschmidt 1953, Skutch 1996, Zimmer and Isler 2003).

The nest was located within a loose clump of slender tree saplings at the edge of a tree-fall gap, and was moderately visible from the main trail *ca.* 8 m away (Figure 1A). It was suspended 1.6 m above the ground from a fork of a *Siparuna decipiens* (Siparunaceae) sapling, with branches of *Coussarea* sp. (Rubiaceae) providing additional cover. The *Siparuna* sapling was 2.3 m tall and only 7 mm in diameter at the height of the nest rim. The fork was formed by two inclined branchlets, 3 and 4 mm in diameter, offset vertically by 48 mm, resulting in a slight tilt and asymmetry of the nest cup. In addition, the bottom of the nest was partially embraced by two leaves originating below the fork. Nest dimensions, accounting for the asymmetry mentioned above, were as following: external diameter 10.5-13.0, internal diameter 6.0-7.7, height 9.0-12.5, and depth 8.0-9.5 cm. The relatively thick (14-33 mm), non-translucent walls seem to indicate that the nest was complete or nearly so.

Three classes of materials were used in its construction. The outer wall was constructed of living mosses, branched and feathery in form, in two shades of green, representing at least two species. The inner wall was made of tightly interwoven rhizomorphs of marasmioid fungi (Figure 1B). They were horsehair-like in appearance, elastic, smooth, light brown to glossy black, 0.1-0.8 mm in diameter, and up to 45 cm in length. Moss strands and fungal rhizomorphs were both tightly looped over the supporting branches, without the use of arthropod silk. The third nest component consisted of leaf petioles, herbaceous stems (some branched), and decayed woody twigs, coated with nodulous snow-white fungal mycelia (Figure 1C). These elements, on average 8 cm in length, were skillfully woven into the moss-rhizomorph matrix. Although concentrated at the bottom of the nest, they were visible both on the inside and outside of the cup. Two whitened twigs without nodules, one of them exceptionally long (22 cm), were dangling externally from the nest rim.

DISCUSSION

This first known nest of Band-tailed Antshrike is similar in most respects to those of other *Thamnophilus* antshrikes. A deep cup suspended from a horizontal fork is typical of the genus as well as several other thamnophilid genera. The height above the ground at which our nest was placed corresponds to the average foraging height of the species, which is often the case in other antbirds (Zimmer and Isler 2003). The use of green moss as nest material has been reported in at least 12 species of *Thamnophilus* and fungal rhizomorphs in at least 10 species, in each case, representing both barred and solid-plumaged clades of the genus (Zimmer and Isler 2003). In contrast, the abundant use of nodulous fungus-whitened twigs is quite unique and known previously only in one other member of the solid-plumaged clade, Plain-winged Antshrike *(Thamnophilus schistaceus)* of southern Amazonia (Zimmer and Isler 2003).

Conspicuous fungus-whitened materials have been hypothesized to function as a decoration, or as a structural support in nests made loosely of moss or sticks (Sick

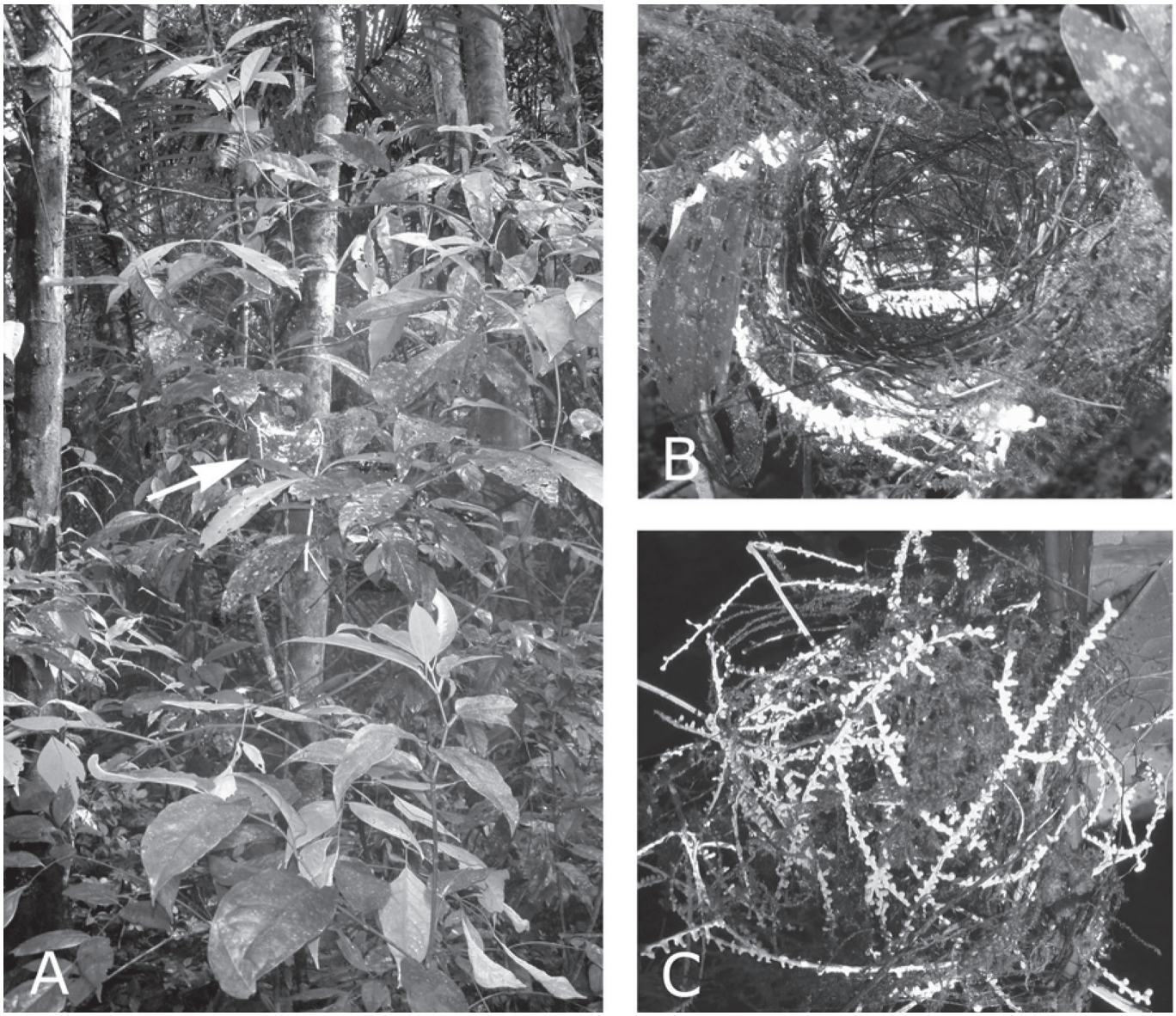

FIGURE 1: Nest of Band-tailed Antshrike: **A)** nest position in a tree sapling indicated by an arrow; **B)** nest cup seen from above showing the inner layer of black fungal rhizomorphs and some protruding twigs covered with white nodulous mycelia, **C)** nest seen from below showing the outer layer of green moss supported by a framework of twigs coated with white fungus.

1957, Willis 1961, Greeney and Sheldon 2008). In the nest of Band-tailed Antshrike, the support function appears more likely. The whitened twigs were not simply attached to the outside of the nest, but were embedded in the nest matrix, and their minute bulbous appendages were grasping loose strands of moss. This type of entangling device is not mentioned in a recent survey of nest interlocking mechanisms (Hansell 2000), and it differs from the fungus as an adhesive function reported by Greeney and Sheldon (2008).

Our preliminary survey of the nest literature reveals only sporadic use of twigs coated with white fungal mycelia in several unrelated species of Neotropical passerines. These include Amazonian Streaked Antwren (*Myrmotherula multostriata,* Thamnophilidae, Sick 1957), Lesser Kiskadee (*Philohydor lictor,* Tyrannidae, E. Endrigo photo in Fitzpatrick 2004), Bare-necked Fruitcrow (*Gymnoderus foetidus,* Cotingidae, Sick 1957), Amazonian Umbrellabird (*Cephalopterus ornatus,* Cotingidae, Greeney and Sheldon 2008), and Red-throated Ant-Tanager (*Habia fuscicauda,* Thraupidae, Willis 1961). Future studies should investigate spatial and temporal availability of fungus-whitened materials in different forest environments and fully evaluate the taxonomic and geographic scope of the use of this unusual material.

ACKNOWLEDGEMENTS

We are especially grateful to Conservation International, in particular to Annette Tjon Sie Fat and Russ Mittermeier, for providing logistical support and for their assistance in securing permissions to

work on Tareno tribal lands. We thank the Amerindian community of Kwamalasamutu for their hospitality during our visit and Bryan Drakenstein of the Nature Conservation Division (STINASU) and Paul Ouboter of the National Zoological Collection of Suriname for granting the research permits and sponsoring our collecting activities. We are also indebted to our extremely capable field assistants: Iwan Derveld, Koita Koeramihte, Kamanje Panashekung, and Semmie Andre, as well as STINASU game warden Sjoerd Prika and Yale student Gideon Bradburd. Finally, Robin Foster, Scott Mori, Susanne Renner, and Charlotte Taylor took time from their busy schedules to help us identify tree species in which the nest was placed. The expedition was funded by grants from the Yale University Environmental Studies Summer Internship, Gary S. Tetelman Fellowship, and Yale Peabody Museum.

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