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SHORT-COMMUNICATION

On the nest, eggs and nestlings of the Short-tailed Antthrush *(Chamaeza campanisona)*

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ABSTRACT: I characterize the nest, eggs and nestlings of the Short-tailed Antthrush (*Chamaeza campanisona*) based on a nest found in an Atlantic semideciduous forest in southern Brazil. The nest was in a natural cavity 1.5 m above the ground and it was 87 cm deep. Three pure white eggs were recorded on a bed of leaves. The nestlings had pink skin, blackish gray down and they left the nest 16-19 days after hatching. Images from inside the nest, the eggs and nestlings are first presented, even for the genus. The *Chamaeza* nest type and egg coloration resemble nest describe for the family Formicariidae, supporting the separation from the family Grallariidae.

KEY-WORDS: breeding, cavity nest, formicarids, Formicariidae, nesting

The new Neotropical family Formicariidae, after the recent separation of the antpittas (Grallariidae), comprises 12 species (genera *Formicarius* and *Chamaeza*), and is closely related to Rhinocryptidae and Furnariidae (Irestedt *et al*. 2002, Krabbe & Schulenberg 2003, Chesser 2004, Rice 2005, Moyle *et al*. 2009). Mainly due to the difficulty of finding nests, basic reproductive aspects are poorly known in ground antbirds, including common species (Krabbe & Schulenberg 2003). This is the case to the *Chamaeza* antthrushes with only some scatter and poorly documented nesting records (Cadena *et al*. 2000). I characterize the nest, eggs and nestlings of the Short-tailed Antthrush (*C. campanisona*). Although *C. campanisona* is the most widespread *Chamaeza*, it have a patchy distribution between northern Venezuela and central Bolivia, also in the tepuis of southern Venezuela to Guyana, and more widely in Brazil, eastern Paraguay and northern Argentina, and there are 12 recognized subspecies (Ridgely & Tudor 1994, Krabbe & Schulenberg 2003).

I found the nest in a forest patch surrounded by a rural landscape in Sapiranga city, state of Rio Grande do Sul, southern Brazil (29º37'S; 51º02'W; 150m altitude). The semi-deciduous forest patch, with 80 ha, form part of the Atlantic Forest biome (*sensu* Teixeira *et al*. 1986). The landscape is a mosaic dominated by agricultural/livestock with sparse forest patches. In the study site, the forest seems to have an advanced stage of succession, with canopy reaching between 10 and 20 m height. The vegetation is characterized by trees such as *Trichilia claussenii*, *Cabralea canjerana*, *Cedrela fissilis* (Meliaceae), *Sorocea bonplandii* (Moraceae), *Nectandra megapotamica*, *N. oppositifolia* (Lauraceae), *Inga marginata* (Fabaceae), *Trema micrantha* (Cannabaceae) and *Allophylus edulis* (Sapindaceae). Common birds are Red-crowned Ant-tanager (*Habia rubica*), Rufous-breasted Leaftosser (*Sclerurus scansor*), Golden-crowned Warbler (*Basileuterus culicivorus*), White-browed Warbler (*B. leucoblepharus*), Buff-browed Foliage-gleaner (*Syndactyla rufosuperciliata*), Yellow-olive Flycatcher (*Tolmomyias sulphurescens*), Surucua Trogon (*Trogon surrucura*), and Olivaceous Woodcreeper (*Sittasomus griseicapillus*), among others.

I measured the nest with ruler and tape-measure to the nearest 0.5 cm. I conducted weekly inspection of the nest and took photographs of the cavity interior to document its contents. I conducted two short videos (30 min each) at mid-day with a small video camera located 6 m from the nest. Because the distance from the cavity entrance to bottom was greater than my arm, I could not access the eggs or nestling to take measurements, thus all my data is descriptive. The nest was classified based on Simon & Pacheco (2005).

The nest was discovered on 12 November 2011 when I flushed a bird during an avifaunal inventory. It was 15 m from the forest edge. The nest cavity was in a 5 m tall living *Allophylus edulis* (Sapindaceae) tree, which had 17 cm in diameter at breast height and was partially tangled by a bamboo (*Chusquea tenella*). The ground

was fully covered with litter and the forest understory is moderately lightened. The cavity entrance was vertical with an irregular entrance 9.5 x 12.5 cm (Figure 1a), facing north. The bottom margin of the cavity entrance was 151 cm above the ground (Figure 1b) and 87 cm deep. At the bottom of the cavity (incubation chamber), the internal diameter was 11.5 x 9.5 cm.

When located, three white eggs rested on a "bed" of green leaves of 1.5 cm of deep. As it was still green, I assumed that the birds led the leaves to cover the bottom of the cavity. The nest can be classified as cavity/with-tunnel/simple/platform (*sensu* Simon & Pacheco 2005), although the "platform" is just a layer of loose leaves rather than a well-defined and built platform. The eggs are ovoid and pure white opaque without spots (Figure 1c).

On 19 November 2011 there were three small nestlings on the bed of dried leaves, therefore, less than 6 days old. Their eyes were closed, pink skin, light yellow bill and rictus and a blackish gray down covering the entire body. After knocking tree, I observed that one of the nestlings curved the neck, suggesting that it was dead (Figure 1d), remaining in this position for at least 5 min, when I left the place. I returned after 30 min and the three nestlings were in normal position, always quiet (like a dark "spot" amid the leaves). No provisioning visit was recorded.

FIGURE 1: Nest cavity (a and b), eggs (c), and nestlings <6 days of age (d) and 9-12 days of age (e) of the Short-tailed Antthrush (*Chamaeza campanisona*) recorded in November 2011 in southern Brazil.

On 26 November 2011 9-12s day old nestlings still have a lot of down but their eyes were open, gray pin feathers were appearing in the tail, wings, and chest (apparently with some brownish), their bills were dark gray with light yellow on the rictus and yellow on the commissure and the distal end (Figure 1e). A 27 s feeding event was observed where one parent entered quickly and quietly the cavity, apparently relying on the cavity walls with his long legs. When the bird was leaving the nest it remained 4 s in the entrance of the cavity, then it flew quietly. On 3 December 2011 the nest was empty and I could not determine the nest fate. But it is estimated that nestlings left the nest when 16-19 days old, assuming the nest was not predated.

The photos of the nest cavity inside, eggs and nestlings of the Short-tailed Antthrush are first presented, even considering the genus *Chamaeza*. Recently, Maders & Matuchaka (2011) described the nest, eggs and nestlings of *C. campanisona tshororo* (the same subspecies of this study) based on a nest found in September 2002 in the province of Misiones, Argentina, without present images. Additionally, a photo of an adult of the species in the nest cavity entrance was presented in Krabbe & Schulenberg (2003), from Alagoas, Brazil (presumably the nominal subspecies). Although there is mention that antthrushes also nests among plants in the ground or on tree trunks (Sick 1997), nests in cavities appears to be a tendency, at least for *Chamaeza*. The nest described here resembles that of Argentina, but with shorter distance from the ground (1.5 x 3 m) and greater depth of the cavity (87 x 21 cm). These also resembles a nest of Striated Antthrush (*C. nobilis*) recorded in the Colombian Amazon, in a cavity 3 m above the ground with a depth of 30 cm (Cadena *et al*. 2000). Representatives from another genus of Formicariidae, *Formicarius*, also use natural cavities in trees for nesting (Cherrie 1916, Skutch 1945, Krabbe & Schulenberg 2003). The difficulty of finding nests and monitor its content does seem to be the main reason why so little information about the reproduction of Formicariidae is available.

Instead of a clutch size of two eggs, as reported in the literature as apparently normal for the family (Sick 1997, Krabbe & Schulenberg 2003), I found three, as well as in the nest found in Argentina (Maders & Matuchaka 2011). As also noted by these authors, the eggs of *Chamaeza campanisona* are clearly unequal poles instead of almost spherical (Sick 1997, Krabbe & Schulenberg 2003). It was not possible to measure eggs to compare with existing data, which refer to averages between 27 and 28 x 22-24 mm (Ihering 1900, Schönwetter 1979, Fraga & Narosky 1985) or slightly larger (32 x 23 mm; Maders & Matuchaka 2011). All eggs of Formicariidae (*Chamaeza* + *Formicarius*) described have white color without spots.

The only previous description of the Short-tailed Antthrush´s nestlings was by Maders & Matuchaka (2011): "grayish feathers on the head, wings and tail, the rest of the body naked." Thus, this study has contributed with more information and greater detail, presenting the first images of the nestlings. If confirmed as such, the observed "play possum/dead" behavior can be equivalent to the one recorded in the Rusty-breasted Antpitta (*Grallaricula ferrugineipectus*) by Schwartz (1957), but see Niklison *et al*. (2008). It would be interesting to manipulate antthrush nestlings to ascertain the occurrence of such behavior. I estimated in 16-19 days the time to the nestlings leave the nest, which is consistent with the value found for *Formicarius analis* (18 days; Sick 1997). The color and general appearance of young *Chamaeza campanisona* when leave the nest remains unknown.

When compared with the representatives of the Grallariidae (revision in Greeney *et al*. 2008), Formicariidae have remarkable differences in relation to reproductive attributes. The most evident are the nest type (open cup *vs*. cavity, respectively) and the egg color (bluish, greenish, turquoise, pale buff or brown with or without spots *vs*. white without spots). In antthrushes, these features seem to be quite consistent and corroborate their separation from antpittas (Rice 2005). The tendency to hide the eggs (mostly nesting in cavities) and whitish eggs are shared by the large group composed by Formicariidae + Rhinocryptidae + Furnariidae *sensu lato* + Scleruridae + Dendrocolaptidae, corroborating the molecular phylogenies (Irestedt *et al*. 2002, Chesser 2004, Moyle *et al*. 2009). Thamnophilidae, Grallariidae and Conopophagidae, more basal Furnariides, have open nests and lay colored and/or spotted eggs (Rice 2005). Finally, I emphasize that information such as duration of incubation, nestling development and parental care remain virtually nonexistent for the representatives of the Formicariidae and therefore worthy of study efforts.

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REFERENCES

Cadena, C. D.; Londoño, G. A. & Parra, J. L. 2000. Nesting records of five antbird species from the Colombian Amazon. *Wilson Bulletin*, 112: 313-317.

Cherrie, G. K. 1916. A contribution to the ornithology of the Orinoco region. *Museum of the Brooklyn Institute of Arts and Sciences, Scientific Bulletin*, 2: 133-374.

Chesser, R. T. 2004. Molecular systematics of New World suboscine birds. *Molecular Phylogenetics and Evolution*, 32: 11-24.

Fraga, R. & Narosky, S. 1985. *Nidificación de las aves argentinas (Formicariidae a Cinclidae)*. Buenos Aires: Asociación Ornitológica del Plata.

Greeney, H. F.; Dobbs, R. C.; Martin, P. R. & Gelis, R. A. 2008. The breeding biology of *Grallaria* and *Grallaricula* antpittas. *Journal of Field Ornithology*, 79: 113-129.

Ihering, H. von. 1900. Catálogo crítico-comparativo dos ninhos e ovos das aves do Brasil. *Revista do Museu Paulista*, 4: 191-300.

Irestedt, M.; Fjeldså, J.; Johansson, U. S. & Ericson, P. G. P. 2002. Systematic relationships and biogeography of the tracheophone suboscines (Aves: Passeriformes). *Molecular Phylogenetics and Evolution*, 23: 499-512.

Krabbe, N. K. & Schulenberg, T. S. 2003. Family Formicariidae (ground-antbirds), p. 748-788. In: del Hoyo, J.; Elliott, A. & Christe, D. A. (eds.). Handbook of the birds of the world, Broadbills to Tapaculos, v. 8. Barcelona: Lynx Edicions.

Maders, C. J. & Matuchaka, V. 2011. Descripción de nido, huevos y pichones de la Tovaca Común (*Chamaeza campanisona tshororo*). *Nuestras Aves*, 56: 10-11.

Moyle, R. G.; Chesser, R. T.; Brumfield, R. T.; Tello, J. G.; Marchese, D. J. & Cracraft, J. 2009. Phylogeny and phylogenetic classification of the antbirds, ovenbirds, woodcreepers, and allies (Aves: Passeriformes: infraorder Furnariides). *Cladistics*, 25: 386-405.

Niklison, A. M.; Areta, J. I.; Ruggera, R. A.; Decker, K. L.; Bosque, C. & Martin, T. E. 2008. Natural history and breeding biology of the Rusty-breasted Antpitta (*Grallaricula ferrugineipectus*). *The Wilson Journal of Ornithology*, 120: 345-352.

Rice, N. H. 2005. Further evidence for paraphyly of the Formicariidae (Passeriformes). *The Condor*, 107: 910-915.

Ridgely, R. S. & Tudor, G. 1994. *The birds of South America, The suboscine passerines*, v. 2,. Austin: University of Texas Press.

Schönwetter, M. 1979. *Handbuch der oologie (Passeriformes 1)*, v. 2. Berlin: Akademie-Verlag.

Schwartz, P. 1957. Observaciones sobre *Grallaricula ferrugineipectus*. *Boletín de la Sociedad Venezolana de Ciencias Naturales*, 18: 42-62.

Sick, H. 1997. *Ornitologia brasileira*. Rio de Janeiro: Nova Fronteira.

Simon, J. E. & Pacheco, S. 2005. On the standardization of nest descriptions of neotropical birds. *Revista Brasileira de Ornitologia*, 13: 143-154.

Skutch, A. F. 1945. On the habits and nest of the Ant-thrush *Formicarius analis*. *Wilson Bulletin*, 57: 122-128.

Teixeira, M. B.; Coura-Neto, A. B.; Pastore, U. & Rangel-Filho, A. L. R. 1986. Vegetação, p. 541-620. In: IBGE. Levantamento de recursos naturais, v. 33. Rio de Janeiro: IBGE.

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