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The Condor 90:236-239
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NESTING OF THE WING-BANDED ANTBIRD AND THE THRUSH-LIKE ANTPITTA IN FRENCH GUIANA¹

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Key words: *Myrmornis torquata*; *Myrmothera campanisona*; *Formicariidae*; *Thamnophilidae*; *French Guiana*; nest; eggs.

Typical ground-dwelling antbirds are among the least-known formicariids of the neotropical rain forests. They are usually neither shy nor very rare, but their secretive behavior forces the field ornithologist to rely mainly on vocalizations to detect them. In French Guiana the Thrush-like Antpitta (*Myrmothera campanisona*) and the Wing-banded Antbird (*Myrmornis torquata*) are widespread in damp, dark understories (often in old treefall gaps) and in the hilly, humid understory of the inland mature forest respectively (Thiollay 1986, pers. observ.). Their nests have not been described to date.

WING-BANDED ANTBIRD

On 27 July 1985, Dujardin found a nest of the Wing-banded Antbird in the upper drainage of the Litany River along the Surinam border, 2 km from the mouth of the Koulé-Koulé (2°26'N, 54°28'W), at an elevation of 155 m. The nest site was at the bottom of a small hill in tall rain forest (canopy at 40 to 60 m) about 100 m from the river. The nest was hanging 2 m above ground from a lateral fork 10 cm from the trunk of a sapling 3.5 m high. The shallow cup, 5 cm high, 3 cm deep, with an internal diameter of 6 to 7 cm, was made of twigs and rootlets (Fig. 1). The clutch consisted of a single egg (26.2 × 18.6 mm). It was creamy white with abundant violet-brown streaks and spots (Fig. 2). The markings were more distinct and darker at the larger end. The female was incubating the egg on 28

July 1985, but lack of time did not permit us to conduct further observations. Later observations of nine different families confirmed that the male is involved in rearing the young. The families were encountered on 20 March 1986 (one family), from 2 to 17 October 1986 (six families), and from 30 April to the end of May 1987 (two families), in the middle Arataye River drainage, around the newly established Biological Station of the Montagne des Nouragues (4°05'N, 52°43'W) (see de Granville [1982] and Atlas de la Guyane [1979] for topographic and climatic descriptions of the sites mentioned in this paper).

Wing-banded Antbirds foraged on slopes with abundant vines and low bushes, by hopping along the ground and vigorously searching with the bill in the litter. Thick, dead leaf accumulations seem to be preferred since birds spend more time foraging in such places than in areas with a thin litter. Foot-scratching has never been observed, and Wing-banded Antbirds always use their straight, long bill in a very fast motion in order to turn or throw dead leaves. Leaves are never seized by the bill. The foraging Wing-banded Antbird may even totally disappear for a few seconds under the largest leaves.

All families we observed consisted of a pair with a single young. Until the time we got the chance to catch a flightless fledgling, the young antbirds seemed to wear a plumage very close to that of the adult, neither male (with a black throat) or female (with a rufous throat). In fact, a transitional plumage has been assessed in a fledgling examined closely and regularly throughout 1 month. On 22 May 1987, we located a *M. torquata* family in a well-known and daily-searched sector where no bird was seen previously. Both parents were easily alarmed, a behavior much less sustained with old fledglings. On 23 May we got the opportunity to catch and ring the flightless fledgling. All the head, nape, throat, and the underparts (contour feathers) were covered by

¹ Received 19 November 1986. Final acceptance 2 October 1987.

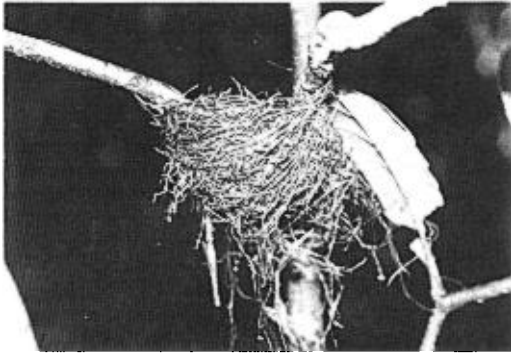


FIGURE 1. A lateral view of the nest of the Wing-banded Antbird (*Myrmornis torquata*), 28 July 1985, Southern French Guiana (O. Tostain).

a chocolate-brown down, grayer on belly and flanks. The mantle feathers showed a large pale beige middle track giving a strong mottled appearance at a distance in the field. The tail feathers had only grown to 3-mm quills and the wing feathers (primaries and secondaries) were only two-thirds developed. The wing coverts showed the two wing bars of the adult, the bill was blackish with prominent pale mouth corners, the eyes were dark brown, and the legs were gray-blue with five blackish half-rings on the anterior side.

Until 26 May the fledgling remained flightless and kept close to its parents. Its pale-gray ear coverts were diagnostic at this time. On 29 May the young antbird was able to fly away over a 1 m distance and it seemed to feed by itself. As before, it came closer to the female than the male, which was much more involved in the alarm and distraction display in the presence of the observer. On 31 May the fledgling was flying over 2 to 3 m distances and was now able to perch on almost vertical twigs. It still wore the cinnamon-brown body down it had when leaving the nest.

On 2 June we mist-netted the two adults. Both were molting. On 23 June, i.e., 1 month after it had left the nest, the young antbird always accompanied its parents in foraging. A close examination revealed it had acquired a new body plumage identical to the adult female, the nape being brown, the ear coverts gray, and the throat and breast reddish-brown. Unfortunately no more field observations were conducted and the total duration of the young-parents association remains unknown. The other fledglings we have seen in March, late April, and early October were flightless, still without tails, and were fed by both parents. This confirms the precocial nest desertion in this species. But fledglings seen later in October appeared to feed by themselves, always in close vicinity to the adults.

These 10 records clearly indicate that the nesting of the Wing-banded Antbird takes place during the main dry season of July to October. But the three of them reported in March to May give some evidence of the nesting during the short and more random dry season which may be interrupted by the long rainy season at the beginning of the year. We believe that only a part of the Wing-banded Antbird population is involved in



FIGURE 2. Overview of nest and the single egg of the Wing-banded Antbird (O. Tostain).

this activity at this time. Such a reproductive phenology seems to be in accord with most other Thamnophilidae (family designation according to Sibley and Ahlquist 1985) which also nest from July to October in French Guiana, but it is noteworthy that the early season nesting (March to May) of *M. torquata* links it with the typical ground antbirds, i.e., Formicariidae (nesting data from Tostain, unpubl.).

On the other hand, the color of the egg and the type of nest bring important contributions to the taxonomy of *M. torquata*. On a behavioral basis (i.e., voice and tail-flicking behavior), Willis (1984) has proposed that it is related to ant-following antbirds, especially *Hylophylax*. Like thamnophilids, the nest of the Wing-banded Antbird is pendent in a fork and its egg is white and deeply spotted unlike anthruses which lay white eggs in trunk cavities, or antpittas, which often lay bluish eggs in nests saddled on low vegetation. So our observations support those of Willis and indicate a relationship to Thamnophilidae. Finally, one must emphasize that the clutch of *M. torquata* in French Guiana is one of the most reduced among antbirds, which usually lay two eggs. Even if one egg can sometimes occur in a nest where the species normally lays two, due to accidental loss of an egg, our observations strongly support that the Wing-banded Antbird lays only one egg under the climatic equator. But this may be the result of a latitudinal clutch size trend, as has been emphasized in the Black-spotted Bare-Eye (*Phlegopsis nigromaculata*). Willis (1979) always saw one young with a pair at Belem (1°S) while Munn (in Hilty and



FIGURE 3. Nest and a brooder of the Thrush-like Antpitta (photo O. Tostain).

Brown 1986) has found nests with two eggs in southeastern Peru (ca. 15°S). So it could be possible that a clutch of two eggs occurs in *M. torquata* farther from the equator. In such an hypothesis, additional information about the nesting biology of this species in the northern part of its amazonian range would be of great interest.

THRUSH-LIKE ANTPITTA

On 5 December 1984, J.-J. de Granville showed a nest of the Thrush-like Antpitta to J.-L. Dujardin in the Mont Belvédère area (2°25'N, 53°06'W) in the extensive undisturbed rain forest of southern French Guiana in the upper drainage of the Camopi River, at an elevation of 160 m. The nest was cup-shaped (external diameter about 9 cm and 4 cm deep), made of tiny twigs and rootlets, and lying on a bed of dead leaves between the rachises of a terrestrial fern (*Didymochlaena trunculata*) 25 cm above the ground. The nest site was in a marshy area with numerous palms (*Euterpe oleracea*). The nest contained two blue-green to turquoise-blue eggs with dark brown markings concentrated mainly around the larger end. They were 27 × 21.5 and 28 × 21.5 mm in size. They were not collected.

A second nest of the Thrush-like Antpitta was found by O. Tostain on 6 December 1986 in a humid flat rich in hydromorphic palms in the study site of the Piste de St.-Elie, 5°15'N, 53°04'W (see de Foresta et al. 1984 for a more detailed description of this area). The cup-shaped nest was a 10-cm-thick accumulation of



FIGURE 4. Overview of a nest and the entire clutch of the Thrush-like Antpitta (photo O. Tostain).

rotten twigs, most of them fairly strong with a diameter of 3 to 7 mm, 17 cm wide, lying 40 cm above ground within a clump of the herbaceous *Rapatea paludosa* (Fig. 3). The internal cup (3 to 4 cm deep and with a diameter of 8.5 to 9 cm) was furnished with a number of thin rootlets. Again the completed clutch consisted of two pale blue-green, uniformly sepia-spotted eggs (Fig. 4). They were 27.3 × 20.9 and 27.0 × 20.9 mm in size. The nest and a brooder were briefly watched from a hide on 9 December (Fig. 3). We didn't see both adults at the nest simultaneously but one bird was calling within 10 m of the nest while the other was incubating. The unhatched clutch was later abandoned for an unknown reason.

Finally, a freshly abandoned nest of a neighboring pair 400 m away was found on 20 January 1987, in a similar swamp forest. The thick platform of dead twigs was lying on a small clustered and unarmed palm (*Geonoma oldemanii*), 60 cm above ground. In this nest the cup was furnished with some rootlets and with the black hyphae of *Marasmius* sp.

Our observations on the nest and eggs of *M. campanisona* link this species with other antpittas (Erard 1982, Wiedenfeld, 1982, Tostain 1986). As some "ground-antbirds," its nest is a shallow cup, settled among the rosettes of low undergrowth plants (ferns, palms, and large herbaceous clumps), lying on a thick mattress of decaying twigs and vegetable matter, and the two eggs of its clutch are spotted over a light blue-green background color. Finally, the nesting of *M. campanisona* during the wet season is a family character shared by *Hylopezus macularius* and *Grallaria varia*, two other members of the Formicariidae in French Guiana (Erard 1982; Tostain 1986, unpubl.).

We would like to thank J.-J. de Granville for showing us one of the nests of *M. campanisona*, and J.-M. Thiollay who found a family of *M. torquata* in October 1986. Fieldwork was possible thanks to J.-M. Thiollay, through a grant from the Ministère de l'Environnement (SRETIE), the logistic support of the Commandement Militaire de Cayenne, and P. Charles-Dominique (ECOTROP and the Muséum National d'Histoire Naturelle). H. Ouellet and W. J. Foley helped us with the English translation. A first draft of this paper benefited

from the useful comments of E. O. Willis, T. S. Schu-
lenberg, and L. Kiff. Financial support was provided
by SEPANGUY.

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The Condor 90:239-241
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THE NESTING AND FEEDING BEHAVIOR OF THE ORNATE HAWK-EAGLE NEAR MANAUS, BRAZIL¹

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Key words: Ornate Hawk-Eagle; *Spizaetus ornatus*; Amazonia; feeding behavior; nesting.

The Ornate Hawk-Eagle (*Spizaetus ornatus*), found over most of tropical Central and South America, is typically a bird of dense forest (Brown and Amadon 1968). Nests are difficult to observe in high tropical forests. Little has been reported on its biology other than casual observations by Slud (Brown and Amadon 1968) and Lyon and Kuhnigk (1985). Our study provides information on nest activity from copulation and nest building to 318 days after hatching.

STUDY AREA AND METHODS

A large stick nest was found in virgin forest 70 km north of Manaus, Brazil (2°25'S, 59°50'W, see Bierregaard 1984 for general habitat description). We initiated observations in June 1983 when adult Ornate Hawk-Eagles were found on and around the nest. Intensive observations were made from 21 September to 28 November 1983. During this time we recorded 173 hr of observations on the adults and 77 on the nestling. From 28 November 1983 until 27 July 1984 brief daily to bi-weekly observations were recorded. An observation platform constructed 19 m high in a tree and 72 m from the nest across a clearing allowed an unobstructed view of the nest.

The sex of the adults was distinguished by size differences and individual molting patterns. We assumed

¹ Received 9 February 1987. Final acceptance 8 July 1987.