

A NESTING OF THE SLATY ANTSHRIKE  
(*THAMNOPHILUS PUNCTATUS*) ON  
BARRO COLORADO ISLAND.<sup>1</sup>

BY ALEXANDER F. SKUTCH.

*Plate III.*

TWENTY-ONE species of Antbirds (Formicariidae) occur within the limits of the Panama Canal Zone. They are gifted neither with bright plumage nor with beautiful songs, but despite these deficiencies many are birds of distinct personality whose acquaintance is well worth the pains to cultivate it—and these are not inconsiderable, for most are shy and retiring inhabitants of the heavy forest or the dense, impenetrable second growth thickets. Clad in black and white, or shades of brown, olive or gray, a number of species are further ornamented by areas of brightly colored bare skin on the cheeks or crown. Although they are not true song birds, the calls of some are pleasing and melodious, and range in character from the “cosy little trill” of the Tyrannine Antbird (*Cercomacra tyrannina*) to the full, mellow triple whistle of the Panama Antthrush (*Formicarius analis*). In habits they are equally diverse, for some, like the Antwren (*Microrhophias quixensis*) live among the trees and have the mannerisms of an active Warbler, while at the other extreme we have the Antthrush just mentioned, which is entirely terrestrial, and treads with the dainty gait of a Rail the dry leaves of the forest floor, with whose color it blends remarkably well.

Our bird is intermediate between these two extreme types in its mode of feeding and the level of the forest at which it prefers to live. The Slaty Antshrike (*Thamnophilus punctatus atrinuchus* Salvin and Godman) is happy in its generic name, for it loves the low bushes which grow beneath the lofty canopy of the lighter forests. Scarcely larger than a Chipping Sparrow, the male is blackish slate-color above and grayish slate below, the secondaries margined and the rectrices tipped with white (Plate III, fig. 2). His mate is olive brown above and buffy olive below, with chestnut

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<sup>1</sup> Studies of the life histories of tropical American birds, No. 3.

crown and tail. On Barro Colorado Island in Gatun Lake it is a numerous species, and frequents the lower strata of the forest, where it seeks its insect food among the foliage of the undergrowth and in the depths of the dense vine tangles. I have not seen it feeding on the ground, and apparently it never associates in the mixed assemblages which follow the army ants and prey upon the cockroaches, spiders and other creatures which are driven from their concealment beneath the litter of the forest floor by the relentless hordes. Two other Antbirds, *Hylophylax navioides* and *Gymnopithys bicolor* generally form the nucleus of these heterogeneous companies, and are joined by the Ant Tanager (*Eucometis cristata*) and sometimes by the Brown Dendrocincla (*D. lafresnayi*) or the Barred Woodhewer (*Dendrocolaptes sancti-thomæ*).

While others of the Formicariidae utter very pleasing little songs, I never heard from the Slaty Antshrike any note which might be called melodious. The usual call (or song?) is a long wooden roll becoming faster and slightly higher in pitch toward the end, terminating in an indescribably characteristic *wank*. Although the preliminary roll might possibly be confused with the calls of some other birds, the *wank* on the end serves to distinguish it from anything else of its kind. This is the call I have heard most frequently from the birds when not concerned about their nests, while another, in one sense just the opposite, for it begins with the staccato *wank* and ends with the *churr*, was used by the bird at its nest to call its absent mate. Sometimes, too, the *churr* is uttered alone, and the bird gives voice to shorter phrases or even monosyllables to express displeasure, anger or fear when its nest appears to be endangered. The precise shade of meaning of each of these varied utterances I cannot pretend to comprehend.

While I was not fortunate enough to witness the construction of the nest of this species, a fragmentary observation leads me to believe that both sexes share equally in the labor. On December 22, I found a nest near the laboratory which was near completion. I got into an umbrella blind as quickly as possible, in time to see both birds come a few times with materials and put on a few finishing touches. No eggs were laid by January 5, but when I next examined the nest on the thirteenth it contained two. This nest, situated in the horizontal fork of a sapling at a height of nine

feet, was constructed of black fibres and rootlets so loosely interwoven that one could discern the white eggs through the open meshwork of the bottom. The drapery of moss was complete on one side only, with a few scattered tufts about the rest of the circumference; not nearly so carefully constructed as that shown in Plate III. Some unknown mishap befell the eggs after incubation had been in progress a few days.

The nest to which I devoted most attention was found on January 7, 1931, in the underbrush of the moderately heavy forest a few paces from the Allison Armour Trail between the 600 and 700 meter marks. The little, moss-covered cup was suspended in the fork of a slender, horizontal branch of a young sapling, about eight feet above the ground. As I approached from behind I could see only the white-tipped, black tail feathers of the sitting male protruding above the rim. He sat very quietly and appeared unaware of my advance until I stood beneath and began to draw down the branch, when he flew to a perch hard by and summoned his mate with a staccato *wank* ending with a long, dry roll. As he delivered the roll his throat vibrated and his tail wagged rapidly up and down, so fully did he throw himself into his utterance. This he repeated over and over again until at length his olive-brown partner emerged from the undergrowth.

While the united pair fluttered around and protested my actions, I examined and measured their nest and its contents. In its form, size and position it strongly resembled that of the Red-eyed Vireo; in material and appearance it was very different. The deep cup was composed entirely of fine black fibres and rootlets, rather loosely woven, and attached by its rim to the horizontal fork. The outside was completely covered with moss loosely attached and dangling in short pendants. Internally it measured  $2\frac{1}{2}$  by  $2\frac{1}{4}$  inches in diameter by  $2\frac{3}{8}$  inches in depth. The two oblong-ovate eggs it contained were white heavily spotted with umber, especially in a crown on the larger end.<sup>1</sup> (Plate III, fig 1).

My notes completed, I retired behind one of the plank-buttress

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<sup>1</sup> These measured 0.97 x 0.66 and 1.00 x 0.66 inches. Those mentioned above were 0.94 x 0.66 and 0.95 x 0.64 inches. A clutch of two is also recorded by Carriker from Costa Rica (Ann. Carnegie Museum Vol. 6 pp. 314-915. 1910), and a nest with one egg by Stone by Panama (Proc. Acad. Nat. Sci. Philadelphia Vol. 70, pp. 239-280. 1918).

roots of a great tree which stood a few paces off, and stayed to observe which bird would occupy the nest. I had not long to wait, for the female soon flew up to it, repeated several times a call similar to her mate's, and settled down to incubate. I remained in my imperfect concealment for the next three hours and made the following record:

- 1:01 P. M. Female begins to incubate.
- 1:35 She leaves nest.
- 2:07 Male enters nest after calling many minutes.
- 2:50 He leaves nest with a sudden jump, silently.  
Female appears at once.
- 3:00 She enters nest silently.
- 4:00 I steal away while the female still covers.

The rather short turns upon the nest are to be attributed to the excitement into which the birds were thrown by my sudden intrusion. The following morning I arrived at the nest at 8:09 and took my place silently behind a plank-buttress of the big tree, without disturbing the male, who was then incubating. He continued to sit quietly until 10:20, when he departed in response to a call of another of his kind, presumably his mate, off in the distance. In five minutes the female arrived in the nesting tree, called many times, and was answered by her mate hidden in the forest. Finally, at 10:37, she covered the eggs and remained sitting until 11:19, when she flew off into the forest and I also departed.

It has been my experience that small birds of the deep tropical forest are as a rule more timid of the presence of man near their nests than are birds which breed in clearings and the vicinity of houses, but there are doubtless many exceptions and the Slaty Antshrike is decidedly one of them. Both male and female permitted a close approach while they were incubating, or while, perched in the vicinity of the nest, they protested my intrusion, but the male always proved himself the braver. To be better concealed while I watched and photographed the nest, I constructed as a blind a little lean-to of palm fronds between the buttresses of the tree already mentioned. The male retreated hardly more than six feet while I lashed a tripod atop a step-ladder, mounted the camera, and focussed it on the nest. When everything was in readiness, I withdrew to the shelter of the blind, from which a

thread led to the release of the shutter, and almost immediately he came up and resumed incubation scarcely a yard from the great, unfamiliar, glassy eye of the camera. Each time I changed the film one or the other bird returned promptly to cover the eggs, and in an hour and a quarter I was able to secure five exposures, three of the male and two of his mate. On returning to their nest, the birds always alighted well down on the branch to which it was attached, approached it by a series of rapid sideways hops, and invariably entered facing outward from the tree, although rarely they turned around after an interval of sitting.

An experience with the Groove-billed Ani had taught me that it is not always safe to assume that the female spends the night on the nest. Which of the pair incubates at night is a point which should be determined for every species (or at least every family) by direct observation. Accordingly, I went one evening to witness the close of the day at the Antshrikes' nest. I arrived at five and frightened the male from his eggs in order to determine whether they were near the point of hatching, which was not the case. Then I retired to the tent of palm leaves, and in a few minutes the female came up silently and settled on the nest, while her mate disappeared into the forest. As the last rays of the declining sun slanted through the forest aisles, a company of Plain-colored Parrots began their stentorian screeching in the tree-tops. Their uncouth utterances died away as the dusk deepened where I sat at the bottom of the forest, but a congregation of Swainson's Toucans were singing their vespers in the still-lighted summits of the trees, in unmelodious voices high and shrill for such large birds. A small voice, unfamiliar to me, rang out in a clear, sweet song not far off in the undergrowth. As the gloom deepened a Chestnut-headed Tinamou sounded its exquisitely modulated flute notes, sounding weirdly melancholy from the unseen distances of the woodland, as though, straying lone and forlorn in the forest, it uttered an agonized protest against the hidden fears and lurking dangers which succeed the sinking of the sun. Closer at hand sounded the tinkling call of a little tree frog, like one picking thrice a fine silver wire held very taut. Still the little Antshrike sat motionless in her mossy nest.

By a quarter to seven objects had become vague and unreal on

the forest floor. I crept up stealthily beneath the nest for a last dim look at the bird sitting alone in the dusk. As I turned to leave, the sharp crackling of a dry stick under foot startled her, and she flew to a near-by limb. A wave of remorse and repentance surged over me; I feared the eggs would chill during the night and all our labors—theirs to rear a brood, mine to watch—had been brought to a premature conclusion by my blundering. But I retreated a little way and stood in anxious silence, and in a few minutes the brave little bird came hopping back to the nest she could scarcely see. Then I stole quietly away, and left her alone to her shrine.

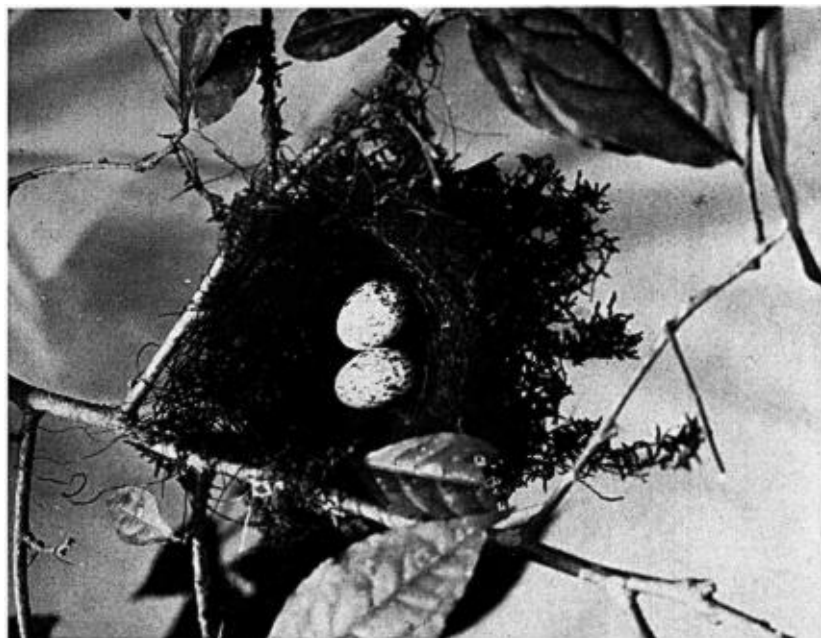
On my next visit to the nest I came with a companion. The male was covering and remained sitting quietly until I touched him gently on the breast with a finger. He retreated to a perch only a foot away and remained motionless and silent, only several times spreading and closing his black, white-tipped tail, while I felt inside the nest and encountered two nestlings. As I took the dark-skinned, blind and absolutely naked creatures in my hand to see them the better, he called twice or thrice to his mate, but made no hostile demonstration. He returned to brood them almost as soon as they were replaced, ignoring the close presence of the two of us.

At a subsequent visit four days later, I found the female perched motionless beside the nest, steadfastly regarding her offspring in their pendent cup. She permitted me to approach to within a yard of her, then fluttered to the ground and, grovelling and beating her spread wings against the dead leaves, appeared to struggle painfully away from the nest. I fell into the spirit of her game and followed about twenty feet, when she suddenly recovered, flew into the nearest bush, and began the *wank r-r-r-r* which drew her mate at once. He arrived uttering his nasal, churring scold, and ventured much closer than she dared. When I went back to the nest to have a look at the nestlings, he perched on a twig not a foot away in an attitude of defense—or perhaps better offence, to judge from his subsequent behavior. Wings were spread and fluttering, tail expanded into a black fan tipped with white, the blackish crown feathers erect and bristling, and the feathers of the center of the back turned *outward*, revealing their white bases (which on ordinary occasions are completely overlaid and concealed by the slaty-black tips) in a broad and conspicuous snowy patch. As I tried to

lift one of the youngsters,—now on their fifth day bristling with black pin feathers and their eyes just opening—from the nest, the father, all poised like an Indian in his panoply of war, launched forward and bit the tip of a finger, I suppose with all the energy of anguished paternal love, yet so gently that I hardly felt it. Twice he repeated those swift attacks with equally swift retreats, before he retired to a little greater distance. I shall always cherish the memory of those ineffectual nips. It was about as close as one can come to a wild, free, alert creature of the forest without suffering bodily harm.

Meanwhile the mother, who dared not approach nearly so close as her heroic mate, perched in a neighboring bush, continued her nervous rattle, and revealed a white patch in the middle of her olive-brown back which one never suspected was there. The significance of the concealed area of white on the backs of these birds is a question which is far beyond the scope of the present paper. We should know first of all the answer to whether it is revealed in courtship, and even should this prove to be the case, as I surmise it is, its consideration would involve the review of all the controversial subject of sexual selection. It is far easier to remark its similarity to the concealed orange or scarlet crown patch of the related Tyrannidae, which also is displayed in the angry or aggressive moods of its wearers. It seems unlikely that any dangerous enemy would be frightened by this sudden display of either a red area on the crown or a white one on the back.

Although the parents were sometimes out of sight when I came up to the nest, they were seldom out of hearing, for the squeaks of distress of the nestlings on being handled brought them at once to investigate and scold; or if one adult happened to be present alone, its call almost always obtained prompt response from the absent mate. The male's attacks upon my fingers were repeated on several occasions when I examined the progress of his nestlings, and once his bites actually hurt a very little. Not always consistent in attacking, at times he was content to flutter around at a little distance and make merely vocal protests at my intrusion. The female never made a direct attack, but while her mate fought sometimes tried the "broken wing" lure on the ground—a ruse in which I never saw the male indulge. The divergent parts played by the



*Photos by A. F. Skutch*

UPPER: NEST AND EGGS OF SLATY ANTSHRIKE.

LOWER: MALE ON NEST.

BARRO COLORADO ISLAND, CANAL ZONE, JANUARY 12, 1931.



two when the nest was endangered—he to drive, she to lure away the enemy—were not a little interesting, especially since in all the other duties of the nest they seemed to share equally.

The nestlings were fed by both parents at fairly infrequent intervals, but then with rather sizable portions. On the fifth and sixth days of the nestlings' lives I spent a total of seven hours and 20 minutes in the blind to observe feeding, and in this period the parents made altogether 18 visits to the nest with food. Assuming that both of the young received equal shares, each was fed on an average of once every forty-nine minutes. The food, so far as I could observe, was entirely animal; I identified a spider, two long white grubs, a cricket and a cockroach, and several other insects of undetermined kinds. It is of interest that during the time I watched the male brought food eleven times to his mate's seven. During the period of these observations, between 8 A. M. and 4:30 P. M., the male alone was seen to brood the nestlings, which he did on five separate occasions for periods of from one to ninety-two minutes. The weather was warm and dry, nor were the nestlings exposed to the sun, so they needed little brooding. If the male were covering when his mate arrived with food, he flew off as she advanced toward the nest by sideward hops up the supporting branch, leaving the nestlings uncovered for her to feed. Both parents cooperated in the sanitation of the nest, flying out of sight with the white packages voided by their offspring.

Both parents spent much time standing motionless in the fork of the twig above the nest, the head often cocked sideways, regarding the nestlings with one eye and fixed attention. The attitude was that we have learned from the work of Herrick to call "inspection," but I think that with them it was more than inspection, and rather, at times at least, a matter of being "on guard." This view is strengthened by a characteristic incident. After the lively encounter already described, when I was first attacked by the male, I had no sooner replaced the nestlings and retired a few paces than he took his position above them and stood like a sentinel, while I added fresh palm fronds to the blind to cover the gaps left by the curling pinnae of the withering leaves, which no longer concealed me. Even the noise of cutting down a small sapling which stood in front of the blind, to obtain a clearer view, did not drive

him from his fixed position. At other times either parent, after delivering the food it had brought, might remain standing on the rim of the nest. It was not a question of shading the nestlings, since only scattered sun flecks penetrated the lofty canopy of the forest, and the wings were never spread as they are when it is necessary to ward off the too-ardent sunbeams. On one occasion the female stood watching her young in this manner a full 18 minutes, but in all other cases which I timed the period spent "on guard" by either parent ranged from two to seven minutes. As they stood thus motionless with lingering gaze fixed upon the helpless nestlings, I should have given much for some intimation of the sentiments which affected them.

At the age of eight days the feathers of the nestlings were bursting from their sheaths, and both gave promise of resembling their mother in coloration. Since my sojourn on the Island had come to an end, I was unable to witness the events of their final days in the nest.

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