

THE HAIRY WOODPECKER IN CENTRAL AMERICA

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THE Hairy Woodpecker (*Dendrocopos villosus*), familiar to nearly every observant person who frequents the woods and fields of temperate North America, is found in the highlands of the warmer parts of the continent as far south as western Panamá. The forms of the species that breed in the mountains of Central America are distinct from those resident farther north, yet all are so similar in plumage and voice that the naturalist who knows any race of the Hairy Woodpecker will at once greet a member of any other race as an old friend. Only after the first warmth of recognition has passed will he begin to think about the differences between the southern bird and its northern relatives. The Central American forms are smaller than the more boreal forms and have the under parts, and sometimes also the white central band along the back, more or less strongly tinged with brown.

In both Guatemala and Costa Rica Hairy Woodpeckers occupy a broad altitudinal belt extending from about 4,000 to at least 11,000 feet above sea-level. At the lowermost of the elevations mentioned they appear to occur only where the mountain slopes are exposed to the prevailing winds and hence unusually cool and humid for the altitude. In the valleys and on the more sheltered slopes they are rarely met lower than 6,000 feet. Near Vara Blanca, on the northern or windward slope of the Cordillera Central of Costa Rica, an excessively humid region exposed to the full sweep of the northeast trade-winds and subject to long-continued storms of wind-driven mist and rain, I found Hairy Woodpeckers abundant at 5,500 feet. Here they dwelt among heavy sub-tropical rain-forests where the towering trees were burdened with an amazing profusion of epiphytic plants of many kinds. These woodpeckers were found in company with Quetzals (*Pharomachrus mocino*), Blue-throated Toucanets (*Aulacorhynchus caeruleogularis*), Prong-billed Barbets (*Semnornis frantzii*), Black-faced Andean Solitaires (*Myadestes ralloides*), and Irazú Grosbeaks (*Pheucticus chrysopeplus*). They usually slept and nested in holes in decaying trees about the edges of the forest or in fire-killed stubs standing in recent clearings. At higher altitudes in Costa Rica Hairy Woodpeckers inhabit heavy forest dominated by huge oaks, and higher still they live amidst the stunted trees near timberline.

In the Guatemalan highlands Hairy Woodpeckers are at home in woodlands of oak and other broad-leaved trees, or among forests composed largely of pine, as well as in the remnants of the magnificent stands of cypress on the high mountain tops. On the plateau of the Sierra Cuchumatanes in the Department of Huehuetenango, I found them on the lightly wooded ridges that rose above the level alpine meadows. Here they were greatly interested

in the pine trees, which at the time of my visit in September, 1934, had been killed in large numbers by some sort of blight. In the neighborhood of 11,000 feet above sea-level they were far less in evidence than were the Guatemalan Flickers (*Colaptes cafer mexicanoides*).

As to the Hairy Woodpecker's way of earning a living, there is little to be written about the southernmost representatives of the species that has not been said a dozen times over for the northern races. They are everywhere the same industrious peckers into dead and dying trees. In Guatemala I watched a female tearing apart old pine cones in search of insect larvae that lurked beneath the scales. There at the higher altitudes the Hairy Woodpeckers roam about the woodlands in the motley flocks of resident and wintering wood warblers, vireos, flycatchers, and other small birds. For some months after the young become independent of parental care, each woodpecker appears to avoid the company of others of its kind, and it is rare to find more than one of them in a flock of other birds. By late November or December, however, they have mated and travel in pairs, either in the mixed flocks or without the company of birds of other kinds.

In voice, too, the Hairy Woodpeckers of Central America resemble their northern relatives. Their most common utterances are a sharp *bip*; a longer, fuller, stronger *beep*; and a rapidly-given, high and clear *bic-bic-bic-bic-bic*—a variant of the picarian rolled note or *churr*. Both males and females beat rapid, rolling tattoos upon resounding dead wood. At Vara Blanca I first heard this drumming about the middle of February.

SLEEPING HABITS

At Vara Blanca I found ten dormitories of Hairy Woodpeckers. These woodpeckers invariably slept alone; but in August two females, probably young birds, occupied lodgings only ten feet apart in the same low stub in a pasture. The doorway of the lower was only as high as my head. From early August until the following February or March, another female slept fifteen feet up in a rustic post that supported a telegraph wire beside a muddy mountain road. Tame and confident, she was not frightened from her low dormitory by travellers passing before her doorway. Her tenancy of over six months was terminated only by the fall of the decayed pole. Other Hairy Woodpeckers that slept in low holes were equally fearless, and would at times enter while I stood watching at a distance of only three or four paces. Indeed, in these mountain fastnesses still scarcely invaded by man, the birds as a whole were easier to approach and to watch than I have ever found them elsewhere.

A male Hairy Woodpecker occupied the same hole in a high stub at the forest's edge from September until at least the end of the following January;

in February the stub fell. Although I found seven dormitories of female Hairy Woodpeckers and only three of males, the two newest cavities were occupied by males; and the only hole that I actually saw being made, before the start of preparations for egg-laying, was carved out and used for sleeping by a male. Some of the chambers in which the females roosted were very old and dilapidated, with chinks in the walls. The males of the Red-crowned Woodpecker (*Centurus rubricapillus*) also carve holes for sleeping at seasons when I have not known the females to interest themselves in this activity, and they sleep habitually in dormitories sounder than those occupied by the females. Like other members of the family, these Hairy Woodpeckers retired early, especially on rainy evenings, and became active late in the morning.

SETTLEMENT OF DISPUTES

Most kinds of woodpeckers are 'territorial' birds, and it is rare to find two nests of the same species in sight of each other. But as a rule the boundaries between territories are agreed upon by methods that elude the bird-watcher. Once, however, I witnessed a dispute between two male Hairy Woodpeckers, which apparently were endeavoring to settle some difference over boundaries or conflicting claims to land. The scene of this debate on April 18, 1938, was the pasture below the cottage which I occupied at Vara Blanca. Here there were a number of dead trunks close together, and fallen dead branches, portions of which rose above the herbage that covered the ground. The two antagonists clung to a thick branch, or to the side of a trunk near its base, a foot or two apart, and thrust forward their heads until body, neck, head, and bill all lay very nearly in a straight line. In this posture they twitched their bodies rapidly up, down, and sideways, a performance which they continued together for a few seconds; and when one ceased the other did likewise.

Then they would prance about, or come as near to prancing as is possible on a surface that is vertical or almost so, both at the same time, for a period of several seconds. Next, perhaps, one would fly over the other and cling to the trunk an equal distance on the other side of his opponent; and, with the relative positions of the actors reversed, the play would proceed much as before. After a while, tiring of these antics, the two woodpeckers would rest for a minute or two, only a foot or two apart. Then one of the twain would fly to a nearby trunk or branch, and soon the other would follow. As the second came near the first, the latter would sometimes spread his wings in a defensive attitude, prettily displaying the black and white bars on the lower surfaces. Here on this new stage the play continued in the same fashion. Only rarely did one bird actually come into contact with the other as the two pranced about and flew over each other; and then they barely touched, in the lightest and most inoffensive manner.

Thus the mimic warfare moved from one trunk or branch to another, then back again to the first, always keeping near the ground and rarely rising so much as ten feet above it. Perfect silence was preserved by the contestants, who seemed quite oblivious of my watching so close to them. For nearly an hour this elaborate play continued, with alternate periods of activity and motionless repose, while the two protagonists clung possibly a foot apart in amicable truce. Surely, two opponents who rested so quietly almost within each other's reach could not have been bitter enemies! At last they wearied of this monotonous game and went off to attend to other business. Like so many of the conflicts of birds, theirs had been of a purely formal nature, and was not attended by the loss of so much as a single feather on either side.

NEST-BUILDING

Above Tecpán in the Guatemalan highlands, at an altitude of nearly 9,000 feet, I found the members of a pair of Hairy Woodpeckers working alternately at a newly begun hole, evidently destined to contain eggs. This occurred on February 7, 1933, at the height of the dry season. On March 21, in the same locality, I discovered another hole which apparently already held nestlings. At Vara Blanca, Costa Rica, the first preparations for nesting were noted on March 3, 1938, when I watched a pair just beginning to carve a hole. This was never completed, possibly because they found the wood too hard toward the center of the trunk; but a neighboring pair was incubating by March 28. This was at the driest time of the year in an excessively rainy region which had no real dry season. The Hairy Woodpeckers in both Guatemala and Costa Rica nest earlier than the majority of the birds which surround them, although not so early in the year as some other woodpeckers.

The seven nest cavities that I have seen in Central America were in dead trunks or posts, either in the woodland or in clearings not far beyond it. In height they ranged from 11 to about 60 feet above the ground. The lowest was in a telegraph pole beside a mountain road—not the one in which the female slept but in the same line. Another was about 15 feet up in a dead stub in a pasture; the highest, at 60 feet, was also in a dead tree in a pasture.

Male and female work alternately at carving out the nest-cavity. Sometimes each continues the task rather steadily for 25 or 30 minutes, but often the period of labor is considerably shorter. When the mate arrives to take over the chiselling, the one which has been at work flies promptly away to forage at a distance, instead of lingering close by while the other works, in the manner of trogons, puffbirds, jacamars, barbets, and motmots. One pair which I watched carving a hole in April, to replace another they had lost, dawdled at their task through the early morning, but at about ten o'clock set to in earnest and continued until noon. Another pair also toiled hard

through the middle of the day. The loosened chips were always dropped to the ground beneath the doorway, never carried away. This orifice is from $1\frac{3}{8}$ to $1\frac{1}{2}$ inches in diameter.

INCUBATION

Upon its completion, one of the two Hairy Woodpecker nests accessible to me was stolen from the woodpeckers by a pair of Blue-throated Toucanets. After enlarging the doorway, the toucanets began nesting in this cavity. The other woodpecker nest within reach of a ladder (11 feet up in the telegraph pole), contained three white eggs when found on April 16. This is the only Hairy Woodpecker's set from Central America of which I have knowledge. During the day male and female incubated alternately; by night the male alone occupied the nest. One morning at dawn I saw the female come to replace her mate on the eggs; but he, not caring to leave so early, repulsed her with pecks from the doorway. He lingered in the nest for 34 minutes longer, or until 6:14 a.m. when, hearing the female call *bip* in a neighboring tree, he flew forth. Seven minutes later she entered to incubate.

THE YOUNG

In the nest in the telegraph pole only a single egg hatched, on April 24. The pieces of empty shell remained at least two days in the nest. The nestling was perfectly naked and had tightly closed eyes. Like other woodpeckers, it bore at each corner of the mouth a prominent white knob, the pair of which apparently help to guide the parents when delivering food in the dimly lighted cavity. The little one was fed by both parents with food carried in the bill, from which at times parts of insects projected and were easily seen. Both took turns at brooding the nestling during the day, but the male alone kept it company through the night. When the nestling was six days old its pin feathers began to sprout. At the age of 17 days it was partly feathered and already displayed a patch of red on the head. When three weeks of age it was well clothed with plumage and rather closely resembled its father.

By his tenth day the young woodpecker had become quite vociferous and cried much in a high-pitched voice when a parent visited his nest. By the time he was feathered he delivered with rapid repetitions a sharp, clear, metallic note, and also uttered the churred call of the adults. When 26 days old he began to look out through the doorway and call for food with a sharp *bip* or a rapid series of such notes, only slightly weaker than the corresponding notes of the adults. The parents now passed food to him while they clung outside. Except at meal-time, he was now less noisy than he had been

a few days earlier. Both parents removed the droppings and kept the nest perfectly clean for at least 17 days after the nestling hatched. But about the time the youngster became clothed with feathers they relaxed their attention to the sanitation of the nest, which rapidly became foul on the bottom. Before the young woodpecker departed, the waste matter had accumulated to a depth almost sufficient to bury an unhatched egg that still remained in the nest.

This young Hairy Woodpecker flew from the nest on May 22, at the age of 28 days. While I watched that afternoon, his father from old habit came to the post with a long larva dangling from his bill. Not finding the youngster at home, he called and, receiving an answer from the neighboring thicket, flew off in that direction with the food. Neither the father nor the fledgling came that evening to sleep in the nest-cavity, which thenceforth remained deserted.

From the nest 60 feet up in the tall dead trunk standing in the pasture, I watched the last fledgling, a male, make his exit at eleven o'clock on May 8. He flew very well and descended to a small yos tree that stood down the slope from the nest. Here he climbed about and pecked at the bark just as though he had been long accustomed to these activities. Both he and his brother wore red patches on the head, brighter than those of their father, whose plumage was worn. (Although both youngsters were apparently males, the tendency of young woodpeckers of both sexes to resemble the adult male rather than the adult female, casts some doubt upon this point.) Later that afternoon I found the family, consisting of the parents and these two fledglings, at the edge of the woods about a hundred yards from the nest. Because of the low cloud-mist and the drizzle that fell from it, I could see little of them; and it was hopeless to try to follow their movements. But I watched the empty nest. At six o'clock the father flew up alone and entered it. The youngsters apparently remained out in the rain, which was now falling steadily.

Late in the afternoon of the third day after these young woodpeckers left the nest, I again found them with their parents on a dead trunk near the nest-tree. The youngsters hammered at the decaying wood and picked up particles which apparently were not good to eat, for they were dropped. But at least they already tried to find food for themselves, only three days after sallying from the nest. They flew back and forth between the trunks with surprising speed. I decided to try once more to learn where they passed the night.

At 5:45 p.m., when the sky was dark with clouds and a drizzle fell, the mother of the family entered a hole in the top of a living guarumo (*Cecropia*) tree. These trees have slender trunks with a wide central hollow, often in-

habited by ants; and although I had often seen woodpecker holes in both living and dead trees of this genus, I had never before known any use to be made of them by the woodpeckers. They are apparently rarely if ever occupied as nests, but this Hairy Woodpecker showed me that they sometimes serve as dormitories.

Then the father vanished, evidently to sleep in the nest-cavity, as he had done three nights earlier; but this opened on the side of the trunk facing away from me and I could not see him enter. The two fledglings continued to climb over the trunks in the slow rain and the waning light. Although there were numerous old and unoccupied holes made by woodpeckers and barbets in these trunks, one of them in the guarumo tree directly below that into which the mother had retired, the youngsters took no notice of them. I lost sight of one of the young woodpeckers while keeping my eyes upon the other. As the light failed, he ascended to the top of a tall tree and climbed restlessly over its branches, pecking here and there, and taking special interest in a shallow hollow in the midst of a small cushion of moss. Still, he did not sleep in this. At length he settled down, clinging upright to an upright bough, just beneath a horizontal branch that grew out from it. These branches were themselves thin, but the moss that enveloped them afforded the young woodpecker a degree of shelter from the raindrops that fell vertically. But he was unprotected on three sides and exposed to all the winds that blew that stormy night. Meanwhile his parents slept not far off in their snug quarters. They showed exactly the same indifference as to how their youngsters passed the night that I had found earlier in Red-crowned Woodpeckers. What a contrast between this neglect and the careful attention which Golden-naped Woodpeckers (*Tripsurus chrysauchen*; see Skutch, 1948. *Auk*, 65:225-260) and Olivaceous Piculets (*Picumnus olivaceus*; Skutch, 1948. *Ibis*, 90:433-449) give to their fledglings' comfort for the night!

SUMMARY

The Hairy Woodpecker is resident in the highlands of Central America, chiefly between 4,000 and 11,000 feet above sea-level. In the Guatemalan mountains a single woodpecker is often to be found in a mixed flock of small birds in the late summer and autumn, but before the end of the year these woodpeckers have mated and travel in pairs.

Ten dormitory holes were found in Costa Rica. Adults, except males attending nestlings, always slept alone. Some of the females occupied chambers which were very old and dilapidated. The males used newer holes, and the only sleeping cavity actually found under construction was the work of a male.

A dispute between two males was settled by much displaying and posturing but no actual fighting.

In February or early March the woodpeckers begin to prepare their nest chambers, which are carved by both sexes working alternately. One hole was no sooner finished than a pair of Blue-throated Toucanets took it from the woodpeckers.

Laying begins about March, and one set of three eggs was examined. Male and female alternate incubating the eggs by day but the male alone attends them through the night. He also broods the nestlings by night.

Both parents feed the nestlings on insects and larvae brought in the bill rather than regurgitated as with some other woodpeckers. For the first 17 days or more one nest cavity was kept perfectly clean, both parents carrying away the droppings. But after the nestling was feathered, the sanitation of this nest was neglected.

A lone nestling flew from the nest when 28 days old. Neither this bird nor a parent returned to sleep in the low nest cavity. After two other young woodpeckers left a very high nest, the father returned to roost in this cavity; the mother retired at nightfall into a neighboring hole, but the youngsters were left out in the rain.

SAN ISIDRO DEL GENERAL, COSTA RICA, MAY 5, 1954