

THE CAVE BIRDS OF TRINIDAD.¹

BY M. A. CARRIKER, JR.

OUT of the vast multitude of feathered creatures inhabiting America, none have interested me more, or have at the same time seemed so repulsive, as the unique "Oil Birds" or "Guacharos" (*Steatornis caripensis*) of the island of Trinidad and adjacent mainland of Venezuela.

The low mountain range paralleling the north coast of Trinidad is composed to a great extent of soft limestone, so that with the great rainfall prevalent in this region, it rapidly weathers away when exposed. The mountains themselves, though low, are very broken and precipitous, and it frequently happens that surface water entering a fault or cleavage of the strata, in time dissolves and carries away great masses of rock and softer material, forming caverns of variable size, and it is in the larger of these caverns that the "Guacharos" take up their abode.

There is a very beautiful one, but difficult of access, on Monos Island, one large one on Shagramal Mountain, three smaller ones on an adjacent ridge, and another large one on the heights of Oropouche, all of which contain colonies of these wierd, uncanny birds. We have many species of nocturnal birds, but none which shun the light of day as does this one, passing all its days in foul and noisesome blackness, only issuing forth in search of food when the early tropic night has settled down over the earth.

The birds are of quite large size, having an average length of thirteen inches and a wing-spread of twenty-eight to thirty inches. The tail and wings are long, the latter pointed and very strong, giving the bird wonderful quickness of movement. The color ranges from cinnamon to chestnut brown, with a few round white spots scattered over the whole of the body and the wing-coverts. The bill is large, strongly hooked, and very powerful, while the feet slightly resemble those of the pigeon, except that they are armed with strong, curved claws. The bird does not perch, but either squats on a flat surface or clings to the rocks like a Swift.

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My first meeting with the birds was at the Shagramal Cave. Starting from a cacao plantation at 800 feet above sea-level, we climbed up the ridge to about 1200 feet, where all cultivation ceased, and the tangled, rock-strewn base of Mt. Shagramal begins. The trail is little used and badly obliterated, and our guide none too certain of the way, so that many false starts are made, only to be retraced. Masses of jagged rock strew the mountain side, interlaced with roots and vines, the whole choked with an undergrowth which only the humid tropics can produce. At about 1600 feet the conditions become infinitely worse. It is from this point upward that the moisture laden clouds break against the mountain slopes, drenching the vegetation continuously. The forest trees are laden with damp green moss, huge leaved, semi-parasitic plants cling to every point of vantage on trunk and limb, while underneath every foot of ground space is choked with masses of small palms and wild plantains, the whole interlaced with an almost machete defying tangle of wire-like creepers.

After reaching an altitude of nearly 3000 feet the trail dropped suddenly down a thirty foot cliff into a ravine, into which we scrambled much after the manner of our Simian ancestors, to continue the journey down the ravine, over a ridge, and into another ravine, where at a sharp turn we came unexpectedly to our journey's end. At this point the ravine ended at the mouth of the cave, into which the little brook flowed, continuing its downward rush through subterranean channels, emerging, perhaps, far down the mountain slope. The mouth of this cavern is about thirty feet wide and forty feet high, arched overhead and festooned with short stalactites. As we reached the mouth of the cavern, there suddenly issued from its depths the most infernal uproar imaginable, hoarse guttural croaks and high-pitched, piercing shrieks, as though the cave mouth were the exit to Dante's Inferno, and all its fiends were pouring forth. Preparing our lights, we descended over a steep slope of loose debris for some thirty feet, where the cave opened out into a huge vaulted chamber, the roof of which rises much higher than the entrance, and the floor of which is at least forty feet lower.

Inside the cavern the noise was deafening and conversation was about as easy as on an open aeroplane. As our eyes become

accustomed to the dim light of the torches, the shadowy forms of the wildly gyrating birds may be seen overhead, while the ledges around the sides are lined with the mound-shaped nests, most of which were occupied by one to three shrieking demons. I estimated that this chamber alone contained not less than seventy-five birds, but all estimate must of necessity be very difficult. The floor of the cave is everywhere covered with loose rock, cold and slimy with the excrement of the birds and the dripping water from above. In many places, where not washed away by the inflowing water, the manure lies in great heaps, from one to three feet in thickness.

Leaving the large chamber, we passed inward at a sharp decline for about twenty-five yards, when the second and much smaller cave was reached, which contained perhaps fifty birds. Passing still further in, the cave contracts abruptly, bends sharply to the right and descends at a sharp angle. The floor is of smooth rock, swept clean of all debris by the inflowing water, which has cut a deep narrow channel in the rock. After extending some forty yards in the new direction, the cave seems to end in a sheer-walled, well-like pocket about twenty-five feet in depth by twelve feet in diameter, but upon close examination it may be seen to bend sharply to the left around a shoulder of rock. Having no means of descending further, we returned to the upper cave, examining more closely everything about us.

Just below the innermost colony of Guacharos the haunts of the cave bats, which are here in myriads, begin. Disturbed by the lights, they take to wing and pour in a continuous stream backward and forward, chattering and squeaking, and often brushing our faces with their wing tips. So numerous were they that at one spot I caught thirteen at a single sweep with a butterfly net.

The heaps of manure and sediment are honeycombed with rat burrows; over the slimy walls roam swarms of crickets which have developed antennae five inches long, by which they are able to find their way about in this stygian darkness.

The men presently brought in a long slender tree-trunk, by means of which many of the ledges were reached and the nests examined, but neither eggs nor young were found, the breeding season having already ended for the year.

In all the nests, on the ledges, and scattered thickly over the

floor of the cave were small, round, hard seeds, the size of a small marble, as well as larger oval ones. At the time I was unable to determine their exact nature, but subsequent research in the Oropouche cave proved them to be seeds of two species of palm tree fruit. Many of these seeds had germinated, sending up long, slender, stiff sprouts, of a pale yellowish white color, due to the entire absence of light in the cavern. The temperature of the Shagramal cavern was found to be 69° F. at 3 P. M., and its altitude above sea-level 2125 feet.

The final question to be solved was the shooting of some of the birds for museum specimens. At the outset nothing seemed simpler than to shoot the birds flying about under the roof of the cave, which were plain enough to the eye, but which promptly became invisible when sighted along the gun barrel. At the first shot my hair actually rose and I grew cold at the thought that the concussion of the shot might easily have dislodged loose masses of rock from the roof to crush us like rats in a trap, but fortunately nothing worse happened than to start a perfect pandemonium among the partially quieted birds, so that their efforts before seemed mere child's play in comparison. As soon as sufficient specimens were secured we were more than glad to escape from the cave into the glorious light of day.

What a sight we were after six hours spent in that gruesome hole! Bruised and battered from innumerable falls over loose stones and covered from head to foot with brown manure and slime. It was dark before we reached the plantation house, where, after a bath, dry clothes, a good long "planters' punch," and a hot dinner, we lounged in easy chairs and discussed the curious adventures of the day.

Being disappointed at not finding eggs or young in the Shagramal cave, we prepared to visit the others in the region. Guides were secured, a rope-ladder forty feet long made, an acetylene lamp secured, and everything made ready to explore them thoroughly. A toilsome climb up the valley brought us to the virgin forest and then the usual fight through the jungle, with the same masses of cold, wet vegetation to cut through. At ten o'clock we reached the first cave, which proved to be a huge well-like affair, some sixty feet deep and twenty-five feet across, and with the top bridged

over with solid rock, leaving a small opening on either side. One of these was sheer-walled to the bottom, but the other offered a precarious descent for about thirty feet, but from there a sheer drop. Bringing the rope-ladder into use, we made the descent safely and found conditions below much as in the big Shagramal cave. The acetylene lamp was a big improvement over the old kerosene torches and we were able thoroughly to explore the numerous ledges and cavities of the walls. A pyramid of rock rose from the centre of the floor to a height of about thirty feet, and mounting this we could examine many nests, but all in vain, no young or eggs.

Two more, rather uninteresting caves were visited, with like results. At the left of one of these cave mouths there was a small grotto, in which I noticed some bats flying about and while attempting to catch them I had an exceedingly narrow escape from a bad, if not fatal accident. Entering the grotto without a light, I stood for a few moments sweeping about with the net at the flying animals, and then not being able to see sufficiently well, called for a light. When it arrived, I was horrified to find myself standing on the very brink of a well-like hole about five feet across and some twenty feet or more in depth. The slightest movement forward would have sent me headlong into it.

The negroes of this region are very much afraid to enter these caves, only a few of the hardier spirits venturing to do so in quest of young Guacharos, which are considered a great delicacy by many people, both white and black. When questioned as to just what they fear, they will tell you anything except the real truth, which is a superstitious fear of the birds. All are firm believers in "obiah" (a modern survival of African witchcraft), and doubtless consider the birds to be possessed of a "jumby" or devil of some sort. Most will enter with a white man, that is behind him, never in front, thinking doubtless that the powerful magic of the white man will protect them.

On my return to Trinidad the following year in June, I again visited the Aripo caves in the hope of securing young and eggs, but again failed. Having heard much concerning the Oropouche cavern, I resolved to visit it at once in the hope of finding young birds still there.

Leaving the train at Arima, we travelled six miles in a carriage to Valencia, where we were met by the negro overseer of the Oropouche estate with saddle and pack animals. Two miles beyond Valencia the main road was left behind and we struck off into the hills over a bridle path, twisting and winding through steep ravines, doubling back and forth up precipitous hillsides to the crests of narrow ridges, only to plunge down through the rain soaked jungle into a gorge beyond. Now the iron-shod hoofs clattered over a bit of rock strewn trail, now sank knee deep into yellow mire, and again carefully picked their way over long stretches of "corduroy," which covered a treacherous quagmire beneath. For six miles we journeyed through unbroken jungle, then suddenly emerged into a district of limestone, where little clearings had been hewn out of the wilderness along the trail, and cocoa planted. The last three miles runs through a most picturesque region of precipitous-walled ravines and narrow ridges rising hundreds of feet above the streamlets, and from the crests of which the blue waters of the Carribean are often visible.

The estate lies in a little valley, surrounded on three sides by towering forest-clad ranges. At the head of the valley rises a limestone cliff, from the base of which gushes a cold, clear brook. Whence it takes its source, no one knows, for the tangled mass of hill and ravine above was unexplored. Beginning in some forgotten age this tireless sculptor has little by little eaten away the soft limestone along its underground course and formed what are today the Oropouche caverns, home of the Guacharos.

The overseer promised the service of two Spanish Creoles who knew the cave well, and who duly appeared two days later fully equipped for the trip. The method of securing the young birds is unique. Two men are necessary, one of whom carries a kerosine *flambeaux*, consisting of an earthenware bottle and a bit of asbestos for a wick, while the other is armed with a long, light bamboo rod. At the smaller end of this pole is lashed a slender wooden rod, curved at its extremity into the form of a semicircle, and with a huge fish-hook attached to its end. A foot above the hook is wound a wax taper, made of wild, black beeswax and a cotton cloth, the wax being warmed, pressed against the cloth and the whole twisted. Several inches of this taper stand erect, and

when this is lighted it gives a bright flame, illuminating the ledges and exposing to view the nests, into which the hook is inserted, moved about, and the young, if any are present, easily dragged out. Thus fully equipped we entered the cave, which is some twenty minutes' walk from the house.

As we halt beside the stream at the cave mouth, to prepare the lights and remove superfluous clothing, a sentinel Guacharo gives the alarm, and the unearthly din commences. The entrance to the cavern gives little hint of the interior, being merely a perpendicular cleft in the rock about twelve feet wide and thirty-five feet high, the sides of which have been fantastically carved by the outpouring waters.

Entering the icy water we wade knee deep along its rocky floor for about twenty-five yards, when an abrupt turn to the right reveals the first cavern. As our eyes become accustomed to the dim light, the outlines of the cavern gradually appear, the vaulted ceiling rising to a height of not less than sixty feet, while the width is nearly as great. Roof and walls are festooned with gleaming stalactites, not of great length as yet, but still of fantastic shape and design. Scattered about the face of the walls are small water-worn cavities and jutting ledges, all now occupied by nests of the Guacharos.

Jacinto, the bearer of the bamboo pole, now lights the wax taper and the search for young birds begins. As the light passes along the ledges the nests are clearly revealed, most of them with one or two occupants, which, at its approach launch themselves precipitately into the mass of whirling, shrieking feathered demons. Again and again the wax taper is extinguished by rushing wings; nest after nest is searched by the ruthless hook, but neither eggs nor young are found. Just when we despaired of success, a nest was discovered cunningly tucked away between two stalactites, the parent birds were dragged therefrom and two sprawling, shapeless young revealed. Without ceremony they, too, were jerked squawking over the edge of the nest and fell into the water below, from which they were promptly rescued. Further search revealed another nest with two young, one with head feathered out and wing and tail quills nearly fully developed, but still such a shapeless mass of fat as to be absolutely helpless. At this point our wax was exhausted

and we left the cave, only having explored the first cavern, which proved to be nearly two hundred feet long and which contained not less than two hundred nests and probably three hundred birds. Anything like a correct estimate of their numbers would be impossible. The air seems to be filled with them, while at the same time most of the nests appear to have one or more occupants.

A few days later we again entered the cave, and after traversing the first chamber, enter a low tunnel-like passage about twelve feet in diameter, extending nearly a hundred feet, then opening abruptly into the second cavern. This is higher and wider than the first, but shorter, being nearly round, but is badly choked on one side by masses of fallen debris. Many nests were found here also, which, when explored yielded nine young but no eggs. It is in this cavern that the only dangerous spot was encountered. At the lower, or outer extremity two passages lead towards the first cavern, through one of which flows the greater part of the water. One not acquainted with the conditions would naturally suppose that the passage through which flows the water would be the main outlet, but herein lies the danger. The passage containing the water extends some thirty feet, bends sharply to the right and stops, while at its extremity is a whirlpool through which the stream rushes, to emerge through various small openings in the floor of the outer caverns. A slip into this pool and one's fate would be sealed, while the body of the unfortunate would very probably never be recovered.

Another low passage leads upward from the second cavern, to a third, about equal in size, which also contains birds. Just beyond the third chamber the cavern apparently ends, the water emerging from under a rocky roof almost touching it. I suspect, however, that other chambers exist beyond, because the chatter of bats could be heard coming from beyond the rocky barrier. The Oro-pouche cave is by far the most striking of all, due perhaps to the large volume of water flowing through it, as well as to its symmetry and to the greater number and beauty of its stalactites, while it undoubtedly contains as many Guacharos as the others combined.

The young bird is a most extraordinary creature, being, until fully feathered, a shapeless, helpless mass of fat, it being from this characteristic that the birds have received their name of "Oil

Bird." A bird so young as to be but sparsely clad with down will weigh from sixteen to eighteen ounces, which is the average weight of the adult bird, while those with the wing and tail quills showing slightly will weigh from twenty-two to twenty-four ounces. This excess of fat persists until the bird is fully feathered, and until it has been absorbed the young bird is absolutely helpless. So abnormally fat are these young that in falling a few yards onto the rocks they will actually burst open. The adults are very lean and tough and give no sign of their early corpulence.

As previously mentioned, the food of both young and adults consists in a great measure of the fruit of two species of palm, but what replaces this food when there is no palm fruit, I cannot say. The breeding season evidently corresponds to the time of greatest abundance of this palm fruit, which undoubtedly contains large quantities of oil, hence the obesity of the young. The stomachs of the young birds taken at Oropouche contained the smaller variety of palm fruit in various stages of digestion, while birds kept alive in a box for several days left quite a number of seeds. It is not quite clear whether these seeds are regurgitated or whether they pass through the alimentary canal, but I rather suspect that they are regurgitated after the manner of the Owl's pellets of bones and hair.

Here at Oropouche I saw the Guacharos flying in the open at night for the first time. Every evening at almost precisely seven o'clock they began to leave the cavern on their nightly forays. Flying in every direction to their feeding grounds, some always passed high over the estate buildings and invariably screamed their harsh defiance when overhead. Often while lying awake at night or just dropping off to sleep I would again hear that harsh demoniacal cry, fading away into the distance and would vividly recall the noisesome, clammy walled caverns and their curiously degenerate inhabitants.

Academy of Natural Sciences, Philadelphia.