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## OBSERVATIONS ON THE XANTUS HUMMINGBIRD

WITH ONE PHOTO

By CHESTER C. LAMB

HE BEAUTIFUL Xantus Hummingbird (Basilinna xantusi) was first made known to science through its discovery near Cape San Lucas, Lower California, Mexico, by John Xantus de Vesey in the year 1859. It was named by Lawrence, Amazilia xantusii in honor of its discoverer. The habitat of the species is from the tip of Lower California northward to the twenty-ninth parallel, where the birds are rare.

The real home of the Xantus Hummingbird is in the Cape San Lucas region. During the twenty-one months the writer spent in field work in that section he was always much interested in these birds, making observations upon them wherever they were present. The adult male is very conspicuous, with his reddish colored bill and other bright colors. He has a rounded, blue-black head, with a white stripe through each eye, and a bright metallic bronze-green throat, while the under parts are cinnamon rufous. The wings are of a purplish dusky shade and the tail purplish chestnut. The female has a black bill, no black on the head or green on the throat, and the eye stripe is rufous instead of white. The immature male resembles the female, though with slight markings of green on the throat. Size is just about as in the Anna Hummingbrd.

Unlike the Costa Hummingbird, which is seen everywhere from the bleakest islands to the mountain tops, the Xantus Hummingbird does not occur in all parts of the Cape region. The birds were fairly common at San Jose del Cabo from February to August. This town lies just a few miles south of latitude 23, thus being within the tropics. This hummingbird, however, is not restricted to tropical surroundings, for it occurs on the highest mountains in the coldest weather. At San Jose del Cabo it frequents the pomegranate hedges and the shrubbery around irrigating ditches. It is very fond of water.

Xantus Hummingbirds were common from September to December at Todos Santos, some ninety miles north of San Jose del Cabo, on the Pacific Ocean. On the coastal plain between the sea and the Sierra de la Laguna or Victoria Mountains, south of Todos Santos, they are also met with, but sparingly. At La Paz, located sixty miles due north of Todos Santos and on the Gulf of California coast, I saw only one bird in nearly a year's residence at that place. This may be due to the fact that at La Paz there is no surface or running water within miles. Some four miles east of Loreto, in a canyon that comes down from the Sierra Giganta, on the trail to Comondu, many were seen.

At Comondu, about one hundred and twenty-five miles north of La Paz and midway between the gulf and the ocean, Xantus Hummingbirds were met with in numbers, but the real center of abundance is in Laguna Valley, in the heart of the Sierra de la Laguna, situated south of La Paz. These mountains are difficult of access, and it takes two days on mule back, over tortuous trails, to reach Laguna Valley, a small, uninhabited valley at an elevation of about 5500 feet.

The Xantus Hummingbirds radiate out from this valley in all directions, and are very common in all the mountain canyons, right down to the open deserts. One may get into some of the favorable hummingbird localities of California and believe he has seen a great concourse of hummingbirds, but half an hour's walk across Laguna Valley and around the lower rim will astound one at the numbers seen. One day I endeavored in the course of a short morning's walk to count the number of Xantus Hummingbirds, but, going up to two hundred before the first hour, I gave up the actual count and started to estimate. One cannot see this large number of hummingbirds at any hour of the day, however. The very early morning hours are when they appear in the greatest abundance. At this time they come out of the oak and pine forests around the rim of the valley and seek a place to bathe, and also to feed and play around a red flowering shrub that grows along the stream on the floor of the valley.

At the time of the year that these observations were made, in August, 1924, most of the birds seen in the open valley were males, adult and immature, the females being busy within the forests with their nesting duties. From observations here and elsewhere, I do not think the males attain full adult plumage until the second year.

At one place the hummingbirds' bath was discovered, where a trickle of water flowed over a flat rock a short distance and then dropped in a tiny waterfall. At one time I counted nine birds at once taking a bath. They would sit in the water and give themselves a thorough shower with their wings; then, to finish off, they would fly against the falls, breast first, and then they would back up to the falling water. Besides the birds busily bathing, there were as many more sitting around on the bushes, drying themselves.

Towards dark, in the winter time, the adult males have a habit of perching on some dead twig, and there, remaining motionless for a considerable period, give themselves up to song, uttering at regular short intervals their quite pleasing little tune. During the heavy tropical rains of that region the hummingbirds would disappear, but the minute the rain ceased they would be out again. These birds love the pines and live oaks of the high mountain regions, and are to be seen at all hours of the day hunting around those trees for the minute insects that constitute their food.

They seem to be of gentle disposition, though they do not permit the too close proximity of another species while feeding or at their nests. They are tame, but not so much so that the brooding female will ever allow a person to touch her. At most any time, a little squeak will bring one or two birds buzzing around one's head. When I had my work table out under the oaks the hummingbirds seemed much interested in my work, buzzing around the table and inspecting my instrument box. I had a fluff of cotton hanging nearby, which they soon learned made excellent nest building material.

My first visit to the Sierra de la Laguna, July 4 to August 7, 1923, was unproductive as regards learning anything of the nesting habits of the Xantus Humming-bird; for search as I would and watch as I would, no nest but an old one was found. Neither did I find any nests at San Jose del Cabo. The following year, however, I had better luck, first at Comondu and later in the Sierra de la Laguna. Mrs. Lamb and myself were at Comondu from March 30 to April 11, 1924, and during that

interval twelve nests were discovered. At this altitude, 800 feet, the birds must start nesting early in February, as all but three nests contained large young or eggs about to hatch. I would not be surprised if they raised two broods annually at Comondu, though I did not stay long enough to prove the fact or to learn the period of incubation.

In their courting, the male Xantus Hummingbird does not fly up in the air and make the parabolic dive that the Costa Hummingbird does, but there is considerable chasing by individuals of one another around through the trees. The nesting birds of Comondu, where there are no oaks, have an entirely different style of nest building from those of the oak regions of the Sierra de la Laguna. The Comondu birds are not particular as to what kind of a tree they select in which to build their nests. The nests are usually placed low above the ground, and they are always very close to running water.

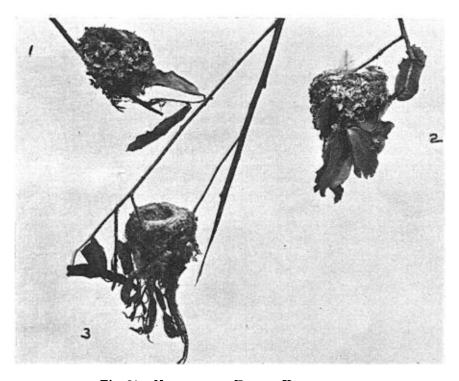


Fig. 21. NESTS OF THE XANTUS HUMMINGBIRD.

1 and 2 from live oaks, Sierra de la Laguna, and covered with lichens; 3 from Comondu, covered with shreds of bark.

Photo by Laurence M. Huey.

Photo by Laurence M. Huey, Courtesy of San Diego Museum of Natural History.

In the Sierra de la Laguna (Laguna Valley), nests are always in live oak trees, not necessarily near water. I made diligent searches in the pines and white oak trees, which, especially the latter, are much more abundant than the live oaks, but discovered no nests. Nearly all the nests found were hung at the ends of small twigs, from four to six feet from the ground, in very small live oaks. Two exceptions were nests found twelve feet up in large oaks.

At Comondu I noted two exceptions to the usual method of suspending nests to twigs. In one case a nest was found saddled to the dry spike of a date palm tree, and

another was saddled on a dead limb of a fig tree. Other trees in which nests were found at Comondu were avocado, olive, lemon, orange, water willow and cottonwood.

The nesting material of the Comondu birds and the Laguna birds was about the same, the nests being composed of fine plant down, dried flower heads, plant fibers and small feathers, all bound together with spider webbing. Nest number 3 (figure 21) is covered on the outside with strips of bark of the water willow. Without exception all the nests of the Sierra birds are beautifully decorated with lichens from the oaks (1 and 2, figure 21). The Comondu birds do not decorate their nests with lichens, these not being available, but sometimes they do attempt a little decoration with bits of bark or leaves.

The nesting dates of the Laguna birds are also different from those at Comondu. We arrived in the Sierra de la Laguna on June 16 and remained until July 7, and in that time no nests were found, though I am not sure that the birds were not nesting. August 3 I re-visited the mountains and remained in Laguna Valley and vicinity until September 3, and in this month discovered twenty-five nests. On September 1 I found a nest just ready for eggs. Of those found, the greater number contained young or heavily incubated eggs, so it might be said that the nesting season in Laguna Valley started about the middle of July and continued to the middle of September. On one occasion, when a nest was found just started, I hung a fluff of cotton nearby and the bird finished the nest entirely of this cotton, decorating the outside with lichens. She then laid one egg. At this time a raven, that arch enemy of all birds, interfered and destroyed the nest and egg. Ravens were very common in the valley and if a person ever went to a nest when a Raven was in sight it meant certain destruction to the nest. One was caught in the very act of destroying a hummingbird's nest that I had just examined.

I could find no evil effect upon the nests from the almost daily heavy tropical rains that lasted from one to three hours. As with our Californian hummingbirds, the number of eggs laid is usually two. I found several nests with one heavily incubated egg and also some nests with one young, but I cannot state definitely that two eggs were not originally laid and one destroyed. Neither did I learn the time it took for the eggs to complete incubation, for here again the Ravens interfered. It may be that frequently one egg constitutes a normal set for the Xantus Hummingbird.

The eggs are white, of course. Measurements would not mean much, as the eggs differ much in shape, some being oval, others elliptical. The nests, too, are of different sizes, the outside measurements of some being much larger than others. The Xantus Hummingbird makes a very handsome nest, bulkier than that of any other humming-bird of the same size in the United States.

Los Angeles, California, January 29, 1925.

## THE COURTSHIP OF THE BRANDT CORMORANT By CHARLES W. TOWNSEND

A S NEITHER Dawson in his "Birds of California" nor Bent in his "Life Histories" has anything to say about the courtship of the Brandt Cormorant (Phalacrocorax penicillatus), I have ventured to report the following observations made at Pacific Grove, California, nearly all at the rocks close to the Hopkins Marine Station of Stanford University. I devoted about two hours on each of three days (February 20, 23 and 24, 1925) to this study, using 8-power prismatic binoculars from a distance of about forty to sixty yards.