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## A PRELIMINARY LIST OF THE BIRDS OF SAN JOSÉ, COSTA RICA.

BY GEORGE K. CHERRIE.

*(Concluded from p. 251.)*

94. *Milvulus tirannus*.—At a slightly lower altitude it nests abundantly. A nest with three fresh eggs taken by Don Anastasio Alfaro at Tambor, Alajuela, May 2, 1889, was placed in a small tree, about ten feet from the ground. The parent bird left the nest only very reluctantly and not until almost within the grasp of the collector. The nest is constructed of a mixture of small dry grass and weed stems and soft dry grass rather compactly woven together, with a lining of a few fine rootlets. It measures outside 5 inches in diameter by  $2\frac{1}{4}$  deep, inside  $2\frac{1}{4}$  in diameter by  $2\frac{1}{4}$  deep. The eggs are white, sparsely spotted and blotched, chiefly about the larger end, with chestnut of slightly varying shades. In form the eggs are ovate, and they measure  $.66 \times .88$ ,  $.65 \times .88$ , and  $.63 \times .89$  inch.

95. *Tityra personata*.—From time to time found about San José, its presence or absence being due to the ripening of certain fruits. My observations have been that the bird feeds chiefly on fruits. The species is found on both coasts, and in the interior up to an altitude of 6000 feet.

Young males resemble the females.

My observations are at variance with those of Mr. Salmon, in regard to the color of the egg being white, as given by Salvin and Godman in their 'Biologia Centrali-Americana.' March 22, 1892, I found a nest of this species at Terraba (southwestern Costa Rica), containing one egg; the bird was shot and a second egg badly broken removed from the oviduct. In these the ground color is a dark pinkish buff; the ground color is almost completely hidden by irregular markings, lines, and blotches, of chestnut brown, these blotches darkest and most abundant about the larger end. The eggs measure  $1.16 \times .83$  inch. The nest was probably a deserted Woodpecker hole, and was situated about six feet from the ground in an old stump. The bottom of the nest was about ten inches below the opening. It was without any lining whatever. However, I saw a second pair of birds carrying nesting material into a hole in another tree.

96. *Chiroxiphia linearis*.—A rare straggler at San José. Tolerably common on the Pacific slope clear to the coast. Young birds resemble the adult female.

97. *Momotus lessoni*.—Common resident. The nests are built in the ground, some bank, like the side of a stream, being selected. The entrance tunnel extends back horizontally sometimes for a distance of six feet. At about half its length there is a sharp bend upward for some six inches, then the course is again horizontal as far as the chamber occupied by the nest. The nest space is twelve or fourteen inches in diameter, being round, and about six inches high with level floor and ceiling. A few

rather coarse dry twigs are strewn over the floor. The eggs I am not acquainted with. Mr. José C. Zeledon, to whom I am indebted for the above notes, also tells me that if one of these nests be opened at about the time the young are ready to leave the nest, it is found to be one of the dirtiest, foul smelling places that can well be imagined. The young birds occupy the centre of the nest, while all about them and especially at the sides of the opening are piles of the excrement mixed with the pellets, composed of the hard chitinous parts of beetles and other insects composing the chief food of the 'Bobos,' that are ejected from the mouth. This mass is reeking with maggots.

At the time the young leave the nest they are able to fly pretty well. They have the same colors as the adults. But the bill is much shorter, more depressed, and the edges without the serration seen in the adults. The tail is shorter than the wings and nearly square. The eye is sepia brown, not chestnut as in the old bird.

On the 8th of May, 1889, I bought four live young birds, the pin feathers not yet concealed and the eye light sepia brown. By the 25th of the same month the iris had changed to a decided chestnut shade, they were fully feathered and the tail of one of the birds measured 3.55 inches. On the 28th the birds commenced imitating the notes of the adults; their eyes had become bright chestnut. With the first utterances of the notes of the adults the peculiar jerky motions of the tail commenced. It was most amusing to watch the four birds sitting in a row together, almost motionless, only giving the tail first a jerk to this side, then to that, now up, and now down, to see it held for the space of a couple of minutes almost at right angles to the body, and then go with a whisk to the other side, the birds all the time uttering their peculiar cooing notes.

May 30, I measured the tail of one of the birds and found it to be 4.25 inches, an increase of .70 inch in five days. I fed the birds on raw meat, and about this time they began to fight vigorously for their shares. If two happened to get hold of the same piece, neither was willing to let go and each would close its eyes and hang on for dear life, both squealing as hard as they could. June 3, the serration of the bill began to show. June 16, the tails were apparently fully grown, and the birds began to tear at the webs at the points of the middle pair of feathers. By the 1st of July the tail-feathers were fully trimmed. My Bobos are often restless at night. Frequently, when at work in the museum until eleven or twelve at night, I have heard them jumping about in their cage and answering to each other's notes.

On one occasion I found the stomach of a bird I had shot filled with snails of a species having a delicate, easily crushed shell. The birds I have in confinement greedily eat earth worms. And one day when I had placed a small live Warbler in the cage, I returned in about half an hour's time and found the feet and tail of my Warbler protruding from the mouth of one of the Bobos!

98. *Ceryle cabanisi*. — Tolerably common resident. The Costaricans call them 'Correo de Agua.' I have not succeeded in finding the nest.

Young birds differ but slightly from the adults; in young males the brown band across the chest is but ill defined. The species is found on both coasts and to an altitude of 8000 feet.

99. *Chordeiles texensis*.—I have never met with the species myself. There are, however, two examples in the collection of the Museo Nacional. Both were collected at San José by Sr. Don Anastasio Alfaro, the first (a male) Nov. 6, and the second (a female) Nov. 7, 1888.

100. *Nyctidromus albicollis*.—Abundant resident, found from an altitude of about 8000 feet down to both coasts. Known here by the name 'Cuyeo.'

There are many superstitions, current among the country people, regarding the Cuyeo. For example, it is a very bad omen to have the Cuyeo cross your path in the evening. And foolish indeed would be he rash enough to shoot at this agent for working untold evil; fortunate might he consider himself did he escape with no greater mishap than the breaking or twisting of his gun barrel! Yet in spite of all evils attributed to the bird, *if* one can be secured its happy possessor is overjoyed with the consciousness of holding the wherewithal to work a charm infallible—to bind, with cords as true as steel, heart the most fickle, change coldest disregard into fond caressing. To work this miracle the heart is removed and dried over a slow fire until it may be crushed into a powder. The body of the bird is buried for a time sufficiently long for the soft parts to decay. Then the bones are carefully collected together, washed, dried, tied into a bundle, and carried in the pocket. All is now ready. The object of the lover's fancy is invited to a drink. A little of the powdered heart is secretly sprinkled in the liquor. Once drunk, the fires of love begin to burn!

The heart of the Cuyeo, dried, and bones of the Lechusa (Owl), carried in the pocket give one success in love affairs. But the philter that "is absolutely certain" in its working is composed of a powder made from the dried hearts of the Cuyeo, Lechusa, and Gorrion (Hummingbird).

101. *Chætura brunneitorques*.—Resident about San José, but not common.

102. *Cypseloides niger*.—There is a single specimen in the Museo Nacional collection, taken at San José by Mr. J. C. Zeledon. There is a note on the back of the label stating that the bird was breeding.

103. *Campylopterus hemileucurus*.—Rare visitant about San José. Tolerably common at a little lower altitude.

104. *Floricola longirostris*.—I took a single specimen Sept. 16, 1891.

105. *Floricola constanti*?—A rather common resident. In the ten examples before me all have the chin blackish and the throat metallic crimson with the feathers tipped with gray. This character, according to Elliot's 'Synopsis,' belongs to *F. leocadiæ*, and not to *constanti*, the form supposed to be found in Costa Rica.

106. *Trochilus colubris*.—Very rare visitant at San José.

107. *Lophornis adorabilis*. Mr. J. C. Zeledon took a single example at San José. The bird is tolerably common in the open prairie country about Boruca in southwest Costa Rica.

108. *Amazilia fuscicaudata*.—The most abundant species about San José, and indeed the most abundant species found on either coast and up to an altitude of about 6000 feet. I believe that this species is nesting in every month in the year. Nests are usually placed about fifteen feet from the ground in either orange or lemon trees. A nest before me is constructed of some soft fibre much resembling hemp tow. There are a few lichens covering the outside, and an inner lining of a little native cotton. The nest, somewhat elliptical in form, measured  $1\frac{1}{2}$  inches deep, by 2 inches long, and  $1\frac{1}{2}$  wide. Inside  $1\frac{1}{4}$  by  $\frac{7}{8}$ , by  $\frac{1}{2}$  deep. The two eggs, white in color and elliptical ovate in form, measure  $.53 \times .37$  inch.

109. *Amazilia sophiæ*.—Tolerably common resident.

110. *Chlorostilbon salvini*.—Tolerably common resident.

111. *Chlorostilbon angustipennis*.—Resident. Not common.

112. *Crotophaga sulcirostris*.—The 'Tijo' of the Costaricans is one of the most abundant birds found in the country, ranging, as it does, from both coasts to an altitude of about 7000 feet.

Mr. Alfaro has kindly given me his manuscript notes on the nesting of this species, which I have translated from the Spanish and present below.

"The Zopilotillo [so-pee-lo-tée-yo], also known as 'Tijo, tijo' [tée-ho] in imitation of its peculiar notes which seem to repeat the word *tijo* over and over again, is very abundant in the fields near Tamboir (a little town about twenty miles northwest of San José) where along the hedgerows and in the scrubby timber, as well as on the skin of the cattle they find those insects which constitute their food. The woodticks, or garropatos, from the legs and about the head and neck of the cattle are esteemed above all else a favorite morsel. In this locality I have collected three nests during the month of May, the first with nine eggs, the second with eleven, and the last with thirteen. Some years ago I remember seeing a nest, situated in the branches of a mango tree, that contained fourteen eggs.

"The nests that I have collected agree with the observations made by Zeledon. The structure is voluminous, composed chiefly of coarse dead twigs, but presents one peculiarity not observed in any other bird, namely the nest being lined with fresh green leaves. My three specimens were all placed in low trees, and neither was found at a greater height than three metres. One had been built above an old nest of one of the larger Tyrannidæ.

"It will not be without interest, I think, to insert my observations relative to one of these nests. On the 20th of May I noticed a Zopilotillo with a dry stick in its bill, which was immediately carried to a point in the hedgerow where it was deposited with three others. After assuring myself that the bird was building its nest there, I retired, with the intention of returning at a more opportune moment. And when one week later I returned to the same spot, what was my surprise to see not only the nest completed and containing six eggs, but more than this: in the thorns and leaves about it were scattered seven more egg! As a consequence, if that collection was not the work of the Zopilotillos collectively,

the poor owner, would have had to deposit three eggs daily! In the finding of some of the eggs scattered in the leaves was revealed one of the architect's peculiarities. A hole had been left in the centre of the nest and only recently filled with leaves whose fresh green color testified that they had been cut and placed there later than the others forming the carpeting to the bottom of this common incubator.

"The eggs were all fresh, the six occupying the nest having the characteristic rough white calcareous surface perfectly clean and without the slightest variation in color. Not so with the eggs found about the outside of the nest. Those found in contact with the leaves had taken on a dirty yellowish tinge. Those held suspended among the leaves and thorns showed various spots and lines of the lustrous blue color forming the base for the chalky external coat. The scratches had been caused by a too close contact with the thorns. In form the eggs vary from an oval to an elliptical oval; while the following dimensions taken from various eggs of the set will serve to give an approximate idea of the great variation in size:  $35 \times 25$ ,  $32 \times 26$ ,  $32 \times 23$ ,  $30 \times 25$ , and  $29 \times 23$  mm."

113. *Diplopterus nævius*.—A rare straggler at San José. Tolerably common at lower altitudes and as far as the coast on the Pacific side. Young birds do not differ from the adults, young males resembling adult males, and young females resembling adult females.

114. *Piaya cayana mehleri*.—An abundant species, found on both coasts and in the interior to an altitude of about 6500 feet.

Young birds resemble the adults.

From Señor Alfaro's manuscript I take the following notes regarding this bird: "The Pajaro Ardilla [squirrel bird], like *Crotophaga sulcirostris*, according to Zeledon is insectivorous, and is found in all parts of the country. It is so arrogant and confident in its habits as to have merited the not over flattering name of 'bobo' [fool]. Its cinnamon color and long tail, together with the habit it has at times of running along the branches, gives it a certain resemblance to a squirrel that justifies the application of the more common vernacular name. Like the Zopilotillo's the nest of this species is built in low trees, is very bulky, and has but little of the artistic about it.

"On the 28th of May while searching about in some scraggy timber along the banks of the Rio de Poas I found a nest of this bird. When discovered, the female was on the nest, but she immediately deserted her post, not, however, going so far that she could not watch our movements, a precaution on her part that assisted in the collecting, in order to determine the sex, after assuring myself that the nest contained eggs.

"The nest was placed about nine feet from the ground in the branches of a small tree, and was well concealed by the broad leaves of some climbing plant. In its construction there was employed nothing but half decayed leaves, making its removal and preservation impossible. The two eggs, which were fresh, are an opaque white, without markings, elliptical oval in form, and measure  $35 \times 24$  and  $33 \times 24$  mm."

115. *Coccyzus minor*.—Very rare about San José. Found on both

coasts. Birds from the Atlantic coast seem to be decidedly the darkest (rather a dark buff below), those from the Pacific coast considerably paler, while specimens from the interior are palest.

116. *Coccyzus americanus*.—I have taken three examples at San José, all females, on Sept. 10, Sept. 28, and Oct. 20, 1890.

117. *Coccyzus erythrophthalmus*.—I took a specimen in San José, Oct. 1, 1890. It is found, as well, on both coasts, but is very rare.

118. *Campephilus guatemalensis*.—Accidental at San José, but common on both the Atlantic and Pacific slopes down to the coast line.

119. *Dryobates jardinii*.—I include this bird in the list with some doubts. In the collection of the Museo Nacional there is a series of forty-six specimens, all, with the exception of four examples labeled as from San José, coming from a much higher altitude.

120. *Centurus hoffmanni*.—Tolerably common resident. Found on both coasts, and in the interior to an altitude of 6,500 feet.

May 12, 1889, I found a nest of this species about 25 feet from the ground in an old rotten snag. This nest contained two fresh eggs. May 26, 1889, I found a second nest containing three fresh eggs. This nest was only about three feet above the ground, in an old stump. It was one foot deep and the entrance opening was two inches in diameter. There was no lining. The male was on the nest when found, and was shot, but the female was not seen. The eggs are elliptical ovate in form, glossy white, and measure  $1.02 \times .70$ ,  $1.03 \times .70$ , and  $1.04 \times .71$  inch.

121. *Conurus petzii*.—Irregular visitant about San José. Most commonly met with during the months of May and August.

122. *Conurus finschi*.—Rare straggler about San José.

123. *Strix pratincola guatemalæ*.—Tolerably common resident.

124. *Syrnium virgatum*.—Tolerably common resident. Nesting probably begins in the latter part of April, as young birds are found by the first of June.

125. *Megascops brasilianus*.—Tolerably common resident.

126. *Megascops nudipes*.—Very rare. Usually found at a higher altitude.

127. *Lophotrix stricklandi*.—Rather rare resident.

128. *Glaucidium phalænoides*.—Tolerably common resident. This species seems to be as much awake as any other bird during the daylight. Frequently in the middle of the day I have found individuals perched in the branches of some dead tree, in the full glare of the sun, and at such times they are very alert. As soon as one appears in sight they commence their peculiar jerky motion of the tail, and usually fly before one is within range. Not infrequently I have noticed this species perched very much after the manner of a Woodpecker. Ordinarily the food consists of insects, but I shot one specimen having the stomach full of the remains of some small bird.

129. *Falco albigularis*.—A straggler at San José, and, as far as I am aware, found only on the Pacific slope. August 10, 1890, I took a young male at San José. There were the remains of a bird in the stomach.

130. *Falco columbarius*.—Dec. 4, 1890, Sr. Don Manuel Carranza brought a fine example to the museum. This is the only specimen I have seen in Costa Rica.

131. *Falco sparverius*.—In no part of the country is this Hawk resident, although on the coasts it is not absent for more than four months of the year. At San José it is met with from the first of October until the last of February. The females predominate very greatly in numbers. In the series of forty-one specimens belonging to the collection of the museum there are eight males and thirty-three females. The head of one of the males (Cartago, March, 1886) is without any sign of the rusty crown patch; the under parts are very pale, buffy, ochraceous; the spots, of a rounded form, cover the entire chest. The remaining seven specimens all show the rusty crown patch more or less well defined. In all of these the spotting of the lower parts extends to the front of the chest, but in these the spots are linear, only varying very much in size and in number in the different specimens.

132. *Polyborus cheriway*.—Rather rare about San José. When seen, usually in company with the Black Vultures.

133. *Circus hudsonius*.—Tolerably common from the first of October until the end of February.

134. *Accipiter bicolor*.—There are three specimens in the museum collection that were taken at San José.

135. *Accipiter velox*. There is a single specimen in the museum collection, taken at San José, Jan. 8, 1884.

136. *Spizaetus ornatus*.—Occasionally met with at San José.

137. *Thrasaetus harpyia*.—A. von Frantzius in his list of birds of Costa Rica mentions a specimen taken near San José.

138. *Urubitinga anthracina*.—A specimen was shot just north of San José on Nov. 29, 1890.

139. *Urubitinga urubitinga ridgwayi*.—A rare straggler about San José.

140. *Rupornis ruficauda*.—Not common at San José, but from a slightly lower altitude down to the Pacific coast very common. Not found on the Atlantic side.

141. *Parabuteo unicinctus harrisi*.—There is one specimen belonging to the museum collection that was taken at San José.

142. *Buteo swainsoni*.—Seen occasionally from the first of November until February 25.

143. *Buteo latissimus*.—Noted from the last of November until the first of May.

144. *Buteo brachyurus*.—Sept. 10, 1888, Senor Alfaro collected a fine male of this species at San José.

145. *Catharista atrata*.—Abundant resident, not only at San José, but in all parts of the country.

146. *Cathartes aura*.—Not common, and only single individuals seen, always in company with the Black Vultures.

147. *Columba albilinea*.—Rare about San José. At a slightly higher altitude abundant. Not uncommon at an altitude of 13,000 feet, at the very top of the volcano of Irazu.



148. *Engyptila verreauxi*.—Tolerably common resident.
149. *Peristera cinerea*.—Tolerably common resident.
150. *Columbigallina passerina*.—Common resident.
151. *Zenaidura macroura*.—Seems to be resident, as specimens are taken every month in the year. Not having found either the nest or young birds, I do not know whether it breeds here or not.
152. *Colinus leylandi*.—Common resident.
153. *Charadrius dominicus*.—Never common at San José, but a few are seen from October 20 until December 15.
154. *Ægialitis vocifera*.—Common at San José from about Oct. 15 until March 15.
155. *Gallinago delicata*.—Not uncommon from the first of October until February 15.
156. *Totanus solitarius*.—Tolerably common from the first of September until the first of May, and I believe there are some individuals that remain all the year.
157. *Actitis macularia*.—Common from about Sept. 1 until March 1. A few individuals remain all the year and breed.
158. *Bartramia longicauda*.—Tolerably common from about Sept. 5 until November 14.
159. *Tringa maculata*.—Arrives and disappears with the Bartramian Sandpiper.
160. *Tryngites subruficollis*.—Arrives and disappears in company with the two preceding species.
161. *Ardea egretta*.—Sometimes seen about San José toward the end of the rainy season and the beginning of the dry season, that is between November and January inclusive. At a lower altitude it is resident.
162. *Ardea herodias*.—As with the preceding species, seen occasionally from November to January.
163. *Ardea cœrulea*.—Not rare during December and January; however, only birds of the year are met with at San José.
164. *Ardea virescens*.—Tolerably common resident at San José.
165. *Nycticorax violaceus*.—Resident about San José. Adult birds, however, are seldom seen.
166. *Porzana carolina*.—Mr. J. C. Zeledon secured an example at San José in 1881.
167. *Anas discors*.—I saw a Blue-winged Teal just south of San José on Oct. 27, 1889.