

NOTES ON THE NESTING OF THE THICK-BILLED EUPHONIA IN THE PANAMA CANAL ZONE

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Euphonias (*Tanagra*) are small, brightly colored tanagers with short bills and tails. The males are usually a dark, steel-blue above with bright yellow coloration on the forehead, forecrown and under parts. The extent of the yellow varies in the different species, of which four are recorded in the Canal Zone. The Thick-billed Euphonia (*T. lanirostris*) has a heavier bill than the others and differs further in having entirely yellow under parts, including the throat. The female is a yellowish olive green above and a clearer yellow below.

This species is known to range through much of tropical South America north to Costa Rica. In Panama, it is often found at the edge of jungle. The natives call it "pico-gordo," which means "thick-bill." The birds which are frequently captured and caged apparently survive on fruits, although wild euphonias are believed to feed chiefly on various species of tropical mistletoe.

Apparently the only published data on the actual breeding of the Thick-billed Euphonia are contained in a brief note by Carriker from Santa Marta, Colombia (Todd and Carriker, Ann. Carnegie Mus., 14, 1922:497); he describes the appearance of eggs and nest, which he indicates are usually placed in a crevice on the side of an overgrown earth bank. Wyatt (*Ibis*, 13, 1871:324), also in Colombia, reports seeing on March 7 a pair of these euphonias apparently looking for a nest site in the thatch of a shed.

This species has been found breeding regularly in the small town of Pedro Miguel, which is situated beside the Pacific locks of that name, on the eastern bank of the Panama Canal. The continental divide is only two and a half miles distant at Gold Hill, which overlooks historic Culebra or Gaillard Cut. Many low hills, some grass-covered and some jungle-clad, bring various forms of wildlife to the very edge of the landscaped areas about the residences. A narrow river and small lake, on the south and east, provides additional favored habitat, but it was not until we had moved from the lakeside to a cottage near the foot of Cerro Luisa that we saw our first pair of wild euphonias. They were in a small tree near our garage.

NEST SITE 1

In that same year, 1938, my neighbor, Mrs. Lawrence Adler, showed me a nest in a fern pot on the porch rail near her kitchen door. She said that a pair of tiny, black(?) and yellow birds had nested in it twice that season. The domed structure was hidden among the leaves, and it was of the type that I have since come to recognize as belonging to the Thick-billed Euphonia.

NEST SITE 2

On August 13, 1952, another neighbor, Mr. Adrian Bouche, who lived in the same vicinity, showed me a similar nest in a pot of ferns which were hanging close beside his front door. It contained two white eggs with brown spots or streaks.

NEST SITE 3

On January 18, 1953, a pair of Thick-billed Euphonias was seen pulling at the air-roots of an orchid (*Catsetum viridiflavum*) which grows in a tall mango tree near my house. Their presence here was further noted on January 21, 24, and February 11. On April 6, my neighbor, Mrs. Katherine Krause, told me that a pair had returned to nest among the stems of another orchid plant which grew in a wire basket suspended about

six feet from the ground beneath a large tree in her garden. The male of this pair was in immature plumage, which was golden olive above, with blue showing indistinctly on the back but forming a dark mask on the sides of the head; both the forecrown and under parts were yellow with a slight olive tinge on the chest and sides. Todd and Carriker (*op. cit.*) have previously suggested that immature males may breed.

On April 30, birds that appeared to be the same pair were plucking again at the *Catasetum* near my door, and Mrs. Krause told me that they were repairing the nest in the orchid basket, from which the previous brood had flown earlier in the month. On May 29 this new brood was well grown, and I went to sketch their nest. When a young girl appeared from a nearby house to watch, the parent birds chattered nervously in a low branch. Suddenly one of the young birds emerged, flew about fifteen feet across the yard and then returned to thick foliage near us. A few minutes later a second fledgling, and then a third, repeated this performance. The girl said that I, while sketching, missed seeing the fourth.

On July 9 this nest was pointed out to Mr. Eugén Eisenmann, who discovered that it contained one egg. The immature male and the female sat near by on a lime-tree branch, chipping excitedly. In July I was away for some time and on returning found that the top of the nest had been torn away, so I assumed that it had been abandoned. On July 25 at 7:30 a.m., I inserted my finger in the nest and was surprised when two euphonias flew out and away. There were no eggs in the nest at that time.

On August 4 two male euphonias were seen on bare branches of a poinciana tree at my house (50 yards from nest site). One fluttered and begged for food after the fashion of a young bird. The other spurned it and flew away. The next day a flock of six was seen among the mistletoe vines on a dying avocado uphill from our cottage.

On August 19 at about 8:30 a.m. the nest at the Krauses was found to have been repaired. The arched dome had been rebuilt to greater thickness than before. There was one egg inside. In the light of a flashlight this appeared to be white or pale pinkish-white and thickly streaked at the larger end with dusky brown. On August 20 at 7:30 a.m. there were two eggs in the euphonias' nest. Next day, August 21, at 7:40 a.m. and again at 4:30 p.m. there were three, and on the 22nd at 8:30 a.m. there were four, which completed the clutch. On August 28 I waited almost a half-hour to identify the nesting pair. When they appeared, together, at 10:45 a.m., it was possible to see that the immature plumage of the male was beginning to show a darker "V" on the upper back. The female entered the nest.

Although she was driven from the eggs by an inadvertent wetting with a garden hose on August 31, she was still sitting on September 4 at 9:20 a.m. I found the eggs unbroken when she left the nest. Returning at 11:15 a.m. on the same day, I found there were small birds in the deep pouch of the nest and at least one unhatched egg. It was impossible to be sure of the exact number of young without unduly disturbing the parents, which were sitting in the tree above me, scolding. The female, for the first and only time, was repeatedly uttering sweet, whistling notes, *phweee-oo-ee*. Thus, the incubation period was approximately 13½ days.

On September 20 I noted the adults to be absent for at least twenty minutes. At 11 a.m. they returned and watched me a few moments before the male flew to the nest and fed the young by reaching up into the entrance from his perch on an orchid bulb. The female did the same, and then they quickly flew away up the hill. Mr. Kenneth Edwards of Pedro Miguel says that he often watched the pair of Thick-billed Euphonias mentioned below feeding insects to their young. By this time the male was turning much bluer, although his wings and nape were still olive. By September 21 it was possible to count four young heads near the top of the nest cavity. They were there on the after-

noon of the 24th but had gone by 10 a.m., September 25. The nestling period was between 20 and 21 days.

NEST SITE 4

Nesting roughly contemporaneous with that of the Krause site occurred at the home of Mr. Edwards, about 650 yards distant, near the river. On April 19, 1953, he showed me a domed structure with side entrance and tiny overhang; it had been well hidden among the bulbs in an orchid pot, suspended about five feet from the ground. A board had been placed above the pot to protect it from rain water dripping from the porch floor. Mr. Edwards told me that the nesting of the previous year in the same pot had begun about the start of the rainy season in May and that two broods, of four and five young, respectively, had been raised there. At the time of my visit, on April 19, the nest contained four eggs. The male of this pair was in full adult plumage. Mr. Edwards later informed me that this brood left the nest safely in June. There were four young of a second brood when I next saw the same nest on July 9, 1953. They left the nest in the week of July 17.

This time the roof of the nest was not torn open at their emergence, as usually occurs, so we thought it a good opportunity to obtain a photograph. On July 31 we moved the orchid pot to the sidewalk for better lighting. We later learned that the nest had then contained three eggs, its third clutch of the season. Fortunately the birds did not desert, for on August 3 the nest held four eggs, all of which hatched. (There was no check between July 31 and August 3.) Mr. Edwards informed me that the first egg hatched on August 15. On the evening of August 16 there were three nestlings and one egg, and by the morning of August 17, the fourth egg had hatched. This incubation period could be reckoned only approximately (between 14 and 16 days). Mrs. Edwards reported that the young were still in the nest on the afternoon of September 3 but had all gone by 9:30 a.m. the next day. Hence the nestling period was 18 to 20 days.

Skutch's published data on two related euphonias (Auk, 62, 1945:25) are as follows: For *Tanagra lauta* in Guatemala he reports an incubation period of 16 days (a clutch of five), and a nestling period of 17 days for three young which had been handled. For *Tanagra luteicapilla* in Costa Rica he reports an incubation period of 13 or 14 days (a clutch of three), and nestling periods of 24 days (one young) and 22 days (two young).

Mr. Edwards has observed that the male Thick-billed Euphonia participates in the building and repairing of the nest but that the materials which he inserts in the structure are removed and rewoven by the female. Strips of dried heliconia or banana leaves are used to reline the bottom with each nesting. When the third brood left the Edwards nest, the roof was torn open; similarly, a torn roof (the cause undetermined) followed the third breeding attempt in the Krause nest. However, it was not broken for (or by) either the second brood at the former site, or the brood of the fourth attempt at the latter site.

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SUMMARY

1. The Thick-billed Euphonia, a bird of the jungle edge, has nested near houses in Pedro Miguel, Canal Zone, for several years.

2. Nests have been found among the roots of ferns or orchids in hanging pots and baskets.

3. The nest is domed with a deeply down-curving entrance on the side under a small overhang.

4. The clutch seems usually to be four; one brood of five young has been reported.

5. Nesting has been observed from late March through August.

6. The incubation period was determined in one nest as between 13 and 14 days. In another nest the incubation period was determined only approximately—between 14 and 16 days.

7. The nestling period in one nest was between 20 and 21 days. In another nest, closer to a house and hence more subject to disturbance, it was between 18 and 20 days.

8. An instance is given of three successive and successful broods in the same nest, in one season, and apparently by the same pair of birds. In a nest of another pair, there was an apparently abortive attempt (involving the laying of at least one egg) between the second and third successful broods.

9. The same nest site has been used in two successive years.

10. Males breed while still in immature plumage.

Pedro Miguel, Canal Zone, October 9, 1953.