Feeding Behavior of Lesser Antillean Bullfinch

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Abstract

This project was developed to compare the aggressive feeding tendencies of the Lesser Antillean Bullfinch (*Loxigilla noctis*). It determined which sex is the most persistent when trying to obtain food. In addition, the study focused on the protective behaviors of the bullfinch when feeding.

The research revealed that the females were more aggressive when trying to attain food. They utilized several different methods to reach their goal. Also, the females did not overtly protect their territory, but did occasionally chase other birds. The males displayed little concern for acquiring the food source, but still defended the nearby area.

Introduction

The Lesser Antillean Bullfinch, *Loxigilla noctis*, is a common sight on all the Lesser Antillean islands except for the Grenadines. For this study of *L. noctis*, the research site was located on Dominica at the Springfield Center for Environmental Protection, Teaching, Research, and Education (SCEPTRE). *Loxigilla noctis* typically prefer shrubs and gardens, but can inhabit all living environments on the island (Evans 1990). SCEPTRE is a great viewing location due to this reason; it is located in a transitional secondary rainforest. There is enough vegetation to provide shelter for the bullfinches, but it is also not so dense that the birds could not be observed.

Like most birds, *L. noctis* demonstrate extreme sexual dimorphism. The males have shiny black plumage and a small, thick black bill for crushing seeds and insect exoskeletons. They also have red patches of color underneath their chin and in front of their eyes. The females, on the other hand, have a brown/olive dorsal side and a gray underbelly. Their bills are also small and thick, but they are yellow not black (Evans 1990). Both have orange undertail coverts, although it is more noticeable on the female.

This project is designed to determine which sex of the Lesser Antillean Bullfinch is more aggressive in obtaining food. Since females have more nutritional requirements for reproduction purposes, it is hypothesized that the females will more actively pursue the resources. In addition, it is predicted that the females will also defend their food more aggressively from other birds, including the male bullfinch, than their counterparts.

Method and Materials

Initially, I tried catching and banding *L. noctis* to determine if the aggressive behavior was individual or sex specific. However, it proved to be extremely difficult and time-consuming to trap the bullfinches. In the future, I do not recommend capturing *L. noctis*, because they are very clever and tend to avoid mist nets, butterfly nets, and box traps.

On the veranda of Springfield's guesthouse, jelly jars with their lids on were set at the south and north ends of the tables. The bullfinches were often seen visiting these areas, especially during meal times. *L. noctis* were observed a few hours throughout each day, typically around 6a.m., 11a.m., and 4p.m. Their interactions with the closed jelly jar and to each other were recorded and later analyzed to determine a pattern.

Results

The research study was conducted over a four day period with a total of eight hours of observation. A total of 55 *Loxigilla noctis* landed within two feet of the study container. Although 48 birds were seen near the jelly jar, it is not certain if it was the same individual repeatedly returning or new bullfinches attempting to open the dish. However, a total of five birds was banded before trapping efforts were abandoned. Of the banded birds, only one male returned. The marked male actually visited the containers a total of two times, so technically only 54 *Loxigilla noctis* were observed in the study area.

The birds' interactions with the jar and with each other were noted and later assessed carefully. After landing near the covered dish, the majority of females immediately surveyed and circled the jar. About half of the females would search for an entrance into the container by pecking at the side of it and pulling on the top handle (Table 1). Of the 34 females, only four attempted to defend the food source. One, briefly, countered a male, but then quickly flew away. Two of the four females had a slight altercation with each other, although neither female retained their position at the container. The last attempt to guard the food a female temporarily harassed a bananaquit (*Coereba flaveola*), but failed to chase it away.

Contrary to the females, the males rarely attempted to open the dish. Only one male was seen pecking at the glass trying to get to the jelly, while fifteen males were observed investigating the jar. Usually, the males looked at the closed jar and then flew away, or they followed the female and chased her as she tried to obtain the resources. Five of the seventeen observed males chased the females from the dish.

Table 1: Comparison of Behaviors Between the *L. noctis* Sexes

SEX	# CIRCLED JAR	# PECKS JAR
Female	34	17
Male	15	1

Discussion

Overall, the females were observed to be the most aggressive when attempting to retrieve food. They were more likely to explore different possibilities in removing the top from the base. The females repeatedly pushed the side of the jar and occasionally lifted the underside of the lid. Also, they stood on top of the lid and tried to pull the handle up. However, males had little ambition to retrieve the food from the jar and rarely

attempted to do so. Only one male attempted to open the container. Often, the males only looked at the marmalade from afar and sometimes investigated the jelly unit to determine if there was an aperture. Usually, the males tended to hinder the females' efforts to acquire food, so they were indirectly depriving themselves of food. With all the attempts, though, none of the birds were capable of opening the jar and retrieving the jelly.

As for the aggression displayed to protect nutritional sources, it was observed in both sexes sporadically and mildly. Once a female briefly chased a bananaquit, but quickly stopped although the bananaquit was still there. However, females were never observed to attack the *L. noctis* males. Contrasting, the males frequently followed the females, causing the females to fly elsewhere. In addition, males were never seen with any other Aves species around the observation sites. It is difficult to determine if the males' behavior was territorial or sexual.

The female *L. noctis* proved the most persistent in gathering nutritional items and semi-aggressive in protecting their cache. Males were indifferent to the food, but still actively chased away the females.

This study can be improved upon by trying to determine the craftiness of bullfinches by testing their different methods of entering separate types of hidden items. For example, placing food under saran wrap, in a jar, and in a basket to observe how the bullfinches react to the obstacle.

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References

Evans, Peter G. H. Birds of the Eastern Caribbean. Macmillan Press LTD 1990: pp. 122, 133-134.