

Aggressiveness and Mating Behaviors in *Loxigilla noctis*
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Abstract

Loxigilla noctis is a very common species in the gardens surrounding the Archbold Tropical Research Center. They thrive in the tropical climate and thus make a good study subject. A three-week study was conducted on the nature of their mating and agnostic behavior and how it differs by sexes. A feeding station was established to attract as many individuals as possible and behavior was also observed during meals when *L. noctis* feeds off of the readily available food scraps. It was believed that this species was very aggressive and territorial and that their mating behaviors are quite simple compared to other species. It was found that both sexes are aggressive, with the males showing more of this behavior than females. Mating rituals are quite simple with the male courting the female without any elaborate dance or song.

Introduction

Known to Dominicans as See-see, Robin, Sparrow, Red-breast, and Red-throat, *Loxigilla noctis*, or the Lesser Antillean Bullfinch, is one of the most common birds of the Lesser Antilles. It can be found at all elevations and habitats, but is most prominent in shrubbery, gardens, and the edges of forests. The male bullfinches exhibit glossy black plumage with red patches above the lores, as well as on the chin and throat. The orange undertail coverts contrast with the black plumage and the broad black bill is used in crushing seeds. The female bullfinches resemble a common sparrow. Their upperparts are a dark olive or brown with greyish underparts and they have a yellowish bill. Just as in the male, the undertail coverts are orange. *L. noctis* is omnivorous, feeding on fruits and seeds as well as small insects. As the bullfinches at Springfield have become accustomed to people, they will "...readily visit scraps of food provided by humans..."(Evans, 1990). Round nests are constructed in thick shrubbery or trees with a side entrance.

This project is designed to investigate the sex differences in aggressive behaviors and mating behaviors. It is believed that the males are the more aggressive sex and that bullfinches do not exhibit extreme territoriality. It is also hypothesized that the rufous patch on the males throat is used as some sort of threat or warning to other males or even other species. Their mating behaviors also appear to be very simple with no elaborate rituals.

Materials and Methods

- Binoculars
- Notepad
- Pencil
- Food
- Feeding Tray

A feeding station was established in the garden off of the verandah at Springfield where *L. noctis* appeared to be abundant. Observations were made for a few hours in the early

mornings as well as mid-afternoon, and the different behaviors and interactions were recorded. Activity was also noted at meal times when bullfinches scavenged off of the readily available food scraps on the verandah. The resulting observations were then studied and interpreted.

Results

For the first few days, the finches avoided the feeding station. After a couple of days, though, they finally acclimated and females could be seen feeding at the station in groups. Females were often found feeding in close association with *Tiaris bicolor*, the Black-faced Grassquit. No aggression was shown towards the Grassquits, but this is probably due to the fact that *T. bicolor* is slightly smaller than *L. noctis*. The males were rarely seen at the feeding station, but were observed flying around the vicinity chasing each other in magnificent displays of acrobatics. Most of their behavior was noted during meals on the verandah. The males were also seen following the females around from tree to tree in a sort of mating ritual. However, the females tended to ignore them and usually chased off the male if he got too close or the female had become annoyed by the visitor.

Both sexes were found to exhibit aggressiveness, but it is more common in the males. The males usually fought over food scraps left behind by humans and defended their immediate territory by chasing off invading males. Females only showed aggression when males had caused an annoyance or when they were squabbling over food scraps. It should be noted that when a male and female finch were squabbling over food, the females were victorious most of the time.

Even though the females were observed constructing the nests, many males were seen carrying nesting material around in their beaks. Some males were even observed carrying out this behavior for hours on end. The males usually deposited what they had collected in a tree and then hurried back into the forest to collect more materials to return to the same tree.

Discussion

When it came to the mating process, it was the male that had to actively seek out the female and spend most of his time appeasing her. If he wasn't foraging or defending his immediate area, he was actively pursuing a mate. Even though the males and females vary quite differently in appearance, I found no reason for this sexual dimorphism. The males do not possess an elaborate mating dance or song. They did not even use the rufous patch on their throat for any apparent reason. The factor that most influenced the female in mate selection appeared to be the male that would help her gather nesting material. The female wants to make sure that she has selected a healthy and viable mate that will help with the task of constructing a nest as well as raising the offspring.

Aggressiveness was exhibited in both sexes, but it was displayed much more frequently in the males than females. Males establish an area and fend off any competitors, and it is much more common for them to display aggression. However, aggressiveness in males was found to be only for the immediate area where they were present. Instead of being very territorial and defending a home range, males defend the immediate area they are in and engage in "...short-term squabbles over access to pieces of food..." (Krebs, 1993). The males seemed to become more aggressive as the mating

season progressed and this is probably so that the male with the best area may be able to attract females easily. Once they found a mate they seemed to give up their territory they had fought so hard to defend. Once again, I found no instance in which the males used their rufous throat patch for an aggressive or threatening display.

The females rarely engaged in aggressive behavior, and exhibited a high tolerance for males as well as other females and even other species, such as *T. bicolor* and *Coereba flaveola*, the Bananaquit. When aggressiveness was displayed it was either for food or to chase off a male that had caused an unneeded annoyance. Females seem to live in close social groups that provide social benefits as well as protection. Females also defended the area in which they were building their nests, although I did find some trees in which it appeared two females were building nests.

Conclusion

L. noctis was found to be a semi-aggressive species with both sexes displaying this behavior at some time or another. Their relatively simple mating behaviors ended in what appeared to be a monogamous pairing. No reason was found for the sexual dimorphism, especially the rufous patch on the male's throat.

One of the problems with this study is that the finches around Springfield have become accustomed to humans and may have changed their normal behaviors as a result. If this study is to be continued it is suggested that a site farther away from human settlements be chosen and that more early morning activity be recorded.

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Literature Cited

Bond, James. 1993. Birds of the West Indies. Houghton Mifflin Company. Boston

Evans, Peter. 1992. Birds of the Eastern Caribbean. The MacMillan Press Ltd. London

Krebs, J.R. and N.B. Davies. 1993 An Introduction to Behavioral Ecology. Blackwell
Scientific Publications. London