

Seychelles sunbirds (*Nectarinia dussumieri*) on Aride Island

Carl Anderson

Department of Biological Sciences, University of Durham, U.K.*

Abstract

A census of the Seychelles sunbirds (*Nectarinia dussumieri*) on Aride Island during 1993 puts the island population at 10 - 12 birds including four females. Data collected from one nestling showed that there was a significant inverse relationship ($n=11$, $F=8.59$, $p<0.02$) between the number of parental visits in the morning and the evening, and between the number of visits in the morning and the date ($n=14$, $F=8.56$, $p<0.02$). The male carried out only 3.6% ($n=277$) of the visits to the chick. Unusually in sunbirds, a group of four birds (including both sexes) were seen singing and interacting together without feeding or aggression.

Introduction

Seychelles sunbirds *Nectarinia dussumieri* (Hartlaub) have been noted on Aride Island since 1878 (Oustelet 1878) although they were probably present before this date but unrecorded. Up until 1992 all sightings were fairly casual with only a few individuals present for up to two months. It was only in 1992 that it was first confirmed that sunbirds were breeding on the island. No data has been collected on nesting behaviour of Seychelles sunbirds on Aride.

A census of the sunbirds on the island (concentrating on the plateau area) was carried out between mid July and mid September 1993.

Methods

The data was collected in July and August 1993 when nest was located in a *Pisonia grandis* tree approximately 4-5m above the ground in a conspicuous position. It was apparent that a single chick was already present in the nest. I carried out watches of the nest between 09:00 - 10:00 and 17:00 - 18:00 daily until fledging of the chick. (These times were chosen arbitrarily). I watched the nest entrance through binoculars from a semi-concealed position approximately 5m away from the nest's projection on the ground. Data were collected on the time of arrival of an adult bird attending the chick, its length of stay, duration of any incubation, sex of the adult, occurrences of faecal pellet removal and any other interesting observations. Climate data were collected daily.

The chick probably fledged on the morning of the 10th of August. (It was present at 18:00 on the 9th and had gone by 09:30 on the 10th). Thus, if we take the 10th as day 0, my data cover from day 0 to day -16.

The census was carried out using direct observations. One female on the island was already ringed. In August mist nets were put up for Seychelles brush

* Present address : 14 Harvesters Close, Mierscourt Road, Rainham, Kent, England.

warblers (*Acrocephalus seychellensis* Oustalet) but three sunbirds were also caught and ringed. This put the total at four ringed sunbirds (two males, two females).

Results

Table one shows the principal data collected.

Number of visits

There is a significant inverse relationship between the number of visits in the morning and evening ($n=11$, $F=8.59$, $p<0.02$). Consequently, the total number of visits for the two hours each day remains fairly constant (mean=19.64, S.E. mean=0.544)

There is a significant inverse relationship between the number of visits in the evening and the date ($n=14$, $F=8.56$, $p<0.02$).

Male versus female attendance

Out of the total of 277 visits observed, only 10 (3.6%) were by the male and these only occurred from day -7 onwards. Thus, the female is conducting a significant proportion of the parental care.

Faecal pellet removal

Pellet removal varied between zero and two pellets per hour over the study period. There was no significant difference between number in morning and evening.

Incubation

Length of incubation varied enormously ranging from 27seconds to 3 minutes 25 seconds. No incubation was seen after the 29th, i.e. day -12.

Climate

Although there were significant relationships between the various climate variables, there were no significant relationships between number of visits or faecal pellet removals and the climate variables.

Table 1. : number of visits in the morning and evening and pellets removed

Date	No. visits		No. Pellets removed	
	in morning	in evening	morning	evening
25/7	22	-	1	-
26/7	-	10	-	2
27/7	17	-	2	-
28/7	12	9	1	1
29/7	14	9	0	0
30/7	9	10	0	1
31/7	14	5	2	1
1/8	8	9	0	1
2/8	11	9	1	2
3/8	13 (2)*	6	2	2
4/8	16 (2)	6	1	1
5/8	14 (4)	4	1	1
6/8	14	6	2	1
7/8	10 (2)	8	1	1
8/8	-	7	-	0
9/8	-	5	-	0
10/8	chick fledged			

* Parentheses indicate visits by male

Discussion

The limited amount of data does show some significant relationships. However, it must be remembered that this can only relate to the one pair of birds studied at that time. Nevertheless, it does indicate some possible relationships which might be confirmed with a larger sample size.

The data shows an inverse relationship between the number of visits in the morning and evening. This could suggest that a short-fall in food for the chick in the morning is compensated by a greater number of visits in the evening. The small variation in total number of visits each day is supportive of this. However, this can only be answered by looking at the calorific value of all the food items. The number of visits per hour conforms to those observed by Greig-Smith (1980) although with a slightly larger range. The prevalence of female parental care is also confirmed.

On the ten occasions when the male was present (see Table 1.) the female displayed by holding out and shivering her wings, keeping her head and body held low and running up and down the perch before she flew off (or chased off?) with the male in pursuit. The male was seen to feed the chick on five of the ten occasions and in one of these, he removed a faecal pellet. Therefore, the male does show some parental care although extremely limited in comparison to the female.

The female was seen and heard to sing on twenty occasions. This has also been seen by Greig-Smith (1980) and thus disproves Penny's (1974) statement that only males sing.

Sunbirds are normally monogamous, territorial and not usually gregarious. However, they are known to feed together when food (usually nectar) is in excess. I observed a group (comprised of both sexes) of four birds in an Indian Almond tree (Badamier, *Terminalia catappa*) who were singing and interacting but not feeding or fighting. Greig-Smith (1980) notes that "...up to four males often gathered in shrubs without aggression, singing loudly and continuously for several minutes. These assemblies were always near an active nest, but their function is not clear." Thus my observations confirm this phenomenon not seen in other sunbird species, but more than that it shows that this is not just a male phenomenon.

The census resulted at a population estimate of 10-12 birds. One bird was seen approximately 50m up the 'Gros Latet' path on the hill and so the possibility remains that there are more birds higher up on the island. It is estimated that there are four pairs of birds on the plateau. One pair definitely fledged a chick. (The main subject of this report). Another may have reared a chick - reports are unconfirmed. The third pair attempted to nest and were unsuccessful. It was suspected that the fourth pair had a nest somewhere near the nest site from the previous year. However, no nest was ever found. The female from this last pair was the original ringed bird who bred in 1992.

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