

CONTENTS

Behavioural ecology	1
Distribution	4
Predation	5

BEHAVIOURAL ECOLOGY

Behavioural traits of group living birds: Case study on silvery-cheeked hornbills *Ceratogymna brevis* in Amani Nature Reserve, East Usambara's, Tanzania

Abstract

An analysis of some behavioural traits and its relationship with group sizes of silvery-cheeked hornbills *Ceratogymna brevis* was conducted within the month of July 2015 in Amani Nature Reserve, Tanzania. This was done to ascertain if there were changes in feeding time and vigilance in relation to flock sizes. All behavioural traits measured were based on time measurement, and focal animal observations were used to examine behaviours of *Ceratogymna brevis* for 22 different sites. However, neither the feeding time ($t= 1.170$, $p=0.2450$) nor vigilance ($t= -0.145$, $p=0.8847$) was influenced by different flock sizes, which may be due to factors such as abundance of fruiting trees and presence of predators.

Alicia Bailey, University of Salford, UK

Michael Ekwemuka, A.P. Leventis Ornithological Research Institute, Nigeria

Cedric Maforimbo, Dambari Wildlife Trust, Zimbabwe

Vera Pfannerstill, University of Potsdam, Germany

2015

Resource partitioning in the sunbird community in Amani Nature Reserve, Tanzania

Abstract

For conservation of sunbird species in Amani Nature Reserve, it is important to identify their food resource utilisation. It is also important to know the role of alien flowering plants in food supply for the sunbird community. We investigated the resource partitioning in the sunbird community and the role of alien plant species as nectar suppliers for the sunbirds in Amani Nature Reserve in the East Usambara Mountains in north-eastern Tanzania. We used point counts and opportunistic searches along transects to collect data about the visitations of different sunbird species to flowering plants. Additionally we collected data about the abundance of the sunbirds and the abundance of the plant species visited by sunbirds. Out of 14 sunbird species recorded from Amani we found eight sunbird species; Collared (*Hedydipna collaris*), Purple-banded (*Cinnyris bifasciata*) and Olive Sunbird (*Cyanomitra olivacea*) were the most common. Our result indicates that these three species use the food resources differently. Collared Sunbirds primarily forage on insects whereas Purple-banded Sunbirds mainly seek nectar on small flowering plants. Olive Sunbirds forage on insects as well as on nectar, but focus in contrast to Purple-banded Sunbirds on plants with big flowers. Out of 15 flowering plants species, *Spathodea campanulata*, *Lantana camara* and *Stachytarpheta jamaicensis*

were the most visited by sunbirds. Of the flower visits 87% were recorded on alien plant species. This indicates that alien flowering plants play an important role in providing food supply for sunbirds in Amani Nature Reserve.

Hailu Menale, Wolaita Sodo University, Ethiopia

Jonas Landolt, ETH Zurich, Switzerland

2013

Risk-perception and escape-decision in Common Bulbul (*Pychnonotus barbatus*)

Abstract

Human presence has a variety of impacts on wildlife and may influence how animals assess the risk of predation but we know less about the scale of such impacts. We quantified flush distance in *Pychnonotus barbatus* (Common Bulbul) in and around the Amani Nature Reserve field station. An observer approached a focal individual at a measured spot distance and flush distance. We observed that escape-decision in *P. barbatus* is influenced significantly by activity and perching height and vegetation cover. The effect of flock size on flush distance was not significant.

Nerioya Neri Akemien, University of Jos, Nigeria

Bomey Clement Gba, University of Cocody-Abidjan, Ivory Coast

2012

The influence of nectar amount and quality on sunbird visitation in Amani Nature Reserve, Tanzania

Abstract

Amani Nature Reserve is situated in an international hotspot of biodiversity. It hosts a wide range of bird species including 10 sunbird species. Sunbirds have recently evolved the ability to extract nectar from flowers to use as a food source. This new feeding behaviour is unexplored in Amani and the aim of the study is determine if nectar volume and sucrose percentage influence the sunbirds' feeding habits. Three different exotic plant species were chosen to observe sunbird feeding times on flowers, *Thunbergia grandiflora*, *Stachytarpheta jamaicensis* and *Hibiscus* sp. These plants were observed on three different sites and repeated twice. Observations were conducted over 4 different time periods. Nectar volume was extracted from the six flowers four times a day and an average was taken. The sucrose percentage was measured in unison with nectar measurements. Results showed no significant relationship between bird visits against nectar volume and sucrose percentage. No significant relationship was found between bird feeding times against nectar volume and sucrose percentage. This study has shown that neither nectar volume or sucrose percentage is influencing bird visits to the three plants species examined.

Roseanne Hennessy, National University of Ireland, Galway, Ireland

Nahla Mahmoud, University of Khartoum, Sudan

Linda van Os, Wageningen University, The Netherlands

2010

Spatial and temporal variation in song rate and song duration in the Little Greenbul *Andropadus virens*

Abstract

We studied variation in the singing behaviour of the Little Greenbul *Andropadus virens* at two sites in Amani Nature Reserve, over a period of 6 days. Variation was measured in terms of singing rate per minute and mean song duration. The effects of differences in population densities, neighbouring birdsong and playbacks were measured over time. Our results show a significant peak in singing activity in the early morning. Singing rate and duration show a similar but non-significant trend. Neither measure of song co-varied with population densities. We found a weak, marginally significant correlation in rate of singing between neighbouring birds and some evidence of a sequential pattern in song. Playback experiments elicited varied responses but there was no significant difference in song before and after playback. Temporal variation over the course of the day occurs even though the Little Greenbul sings all day. The results of song interactions between neighbours and of playback experiments suggest that their song is signalling both territorial and mate attraction messages.

Abigail Bunker, Anglia Polytechnic University, UK

Ellinor Lillieholm, University of Stockholm, Sweden

2005

The role of calling in the social behaviour of Silvery-cheeked Hornbills

Abstract

Silvery-cheeked Hornbills, *Ceratogymna brevis*, live in social groups whose members communicate with each other by harsh quacking calls. We investigated whether the rate of calling depends on the size of a group, its sex ratio, and what activity the birds are engaged in. We also looked at how the rates of calling and patterns of activity changed throughout the day. Our observations consisted of three-minute focal watches and scanning observations at three different times daily, over a period of six days. We found a significant correlation between group size and calling rate, but no relationship between calling rate and sex ratio. The birds called significantly more in the morning and evening than during midday, a pattern that we attribute to the sharing of information at the roosting site. There was significantly more calling during flight than during other activities such as feeding and preening, and no significant difference between the relative amounts of time the hornbills spent on different activities at different times of day. We conclude that calling is a mechanism of information transfer between group members, for example about food availability and the presence of predators.

Jessie Barker, University of Cambridge, UK

Jonas Holgersson, University of Gothenburg, Sweden

2005

The foraging behaviour of the Olive Sunbird (*Nectarinia olivacea*) on *Spathodea campanulata*

Abstract

The foraging behaviour of the olive sunbird (*Nectarinia olivacea*) on *Spathodea campanulata* was studied in the Amani Nature Reserve (ANR). Observations were made for six trees within the early and late morning periods. The olive sunbirds spent more of the active time feeding than perching.

There was no significant difference in the time the olive sunbird spent on feeding between the two periods. However, there was a difference in the feeding bouts. Also flower abundance on a tree had no effect on birds' feeding time. Other bird species were found to be feeding on *Spathodea campanulata* with no observed aggressive interactions. The olive sunbird was also found to feed on six other plants in the ANR.

Cheso Walters, Bamenda Highlands Forest Project, Cameroun

Azariah Mavis Lilian, Ghana Wildlife Society, Accra, Ghana

Stauffer Martina, University of Vienna, Austria

2001

Foraging and social behaviour of Silvery-cheeked Hornbill *Ceratogymna brevis*, Amani Nature Reserve, Tanzania

Abstract

This project was carried out from September 14-23, 2000 at Amani Nature Reserve, Tanzania, on foraging and social behaviour of the Silvery-cheeked Hornbill, *Ceratogymna brevis*. This mainly frugivorous species is among the most important seed dispersers. The objectives of this study are to know if the main behaviour of the species is constant or varies throughout the day, to know if the number of birds per foraging flock varies and to see whether there is sexual segregation during the day or at roost. Sampling was undertaken using focal-animal method. Sexual segregation is shown to be highly relevant at roosting site and the main behaviour shows a clear pattern.

Rafael Matias, Universidade de Lisboa, Portugal

Adal Melaku, Addis Ababa University, Ethiopia

2000

DISTRIBUTION

The distribution of the Olive Sunbird, *Nectarinia olivacea*, in relation with forest habitats

Abstract

The study compared the distribution of the Olive Sunbird with the different kinds of habitats along a road in Amani Nature Reserve. The birds' distribution was also compared to the distribution of *Maesopsis eminii* and *Lantana camara*. The birds were mapped using the calling method, but also visible birds were recorded. Habitats were mapped according to the vegetation using density, openness, and presence of fruiting and/or flowering plants as categories. The results show that the olive sunbirds prefer habitats with dense undergrowth and fairly open canopy, near or in forest edges. There were no significant correlation between the sunbirds' distribution and flowering and fruiting plants.

Ina Bloch, University of Vienna, Austria

Sara Malmroth, Gotland University, Sweden

2002

The importance of a linear strip of remnant forest for understorey birds in the East Usambara Mountains, Tanzania

Abstract

The function of linear strips of vegetation in a fragmented forest on understorey birds was examined in the East Usambara Mountains in north-eastern Tanzania. In this preliminary study, using mist-nets and telemetry, we find support for the hypothesis that forest specialist species tend to avoid linear strips of forest vegetation in tea plantation and that two species of greenbuls tend to use linear strips for their movements in a fragmented landscape.

Anna Gustafsson, Swedish University for Agricultural Science, Sweden

Bernhard Majer, University of Vienna, Austria

Charles Kahindo, Bukavu University, Congo & Makerere University, Uganda

1998

PREDATION

Predation on artificial nests with distance from forest edge in the East Usambara Mountains, Tanzania

Abstract

We conducted our artificial nest predation experiment in the fragmented landscape of the East Usambara Mountains, Tanzania. We determined whether predation rate on artificial nests varied with distance from the edge of a block of primary rain forest into the matrix (tea plantation) and into the forest interior. The study was conducted in September 1998 towards the end of the dry season. The overall predation rate on nests of 17.5% (7/40) was much lower than expected based on results from previous artificial nest predation studies; we did not find that predation rates varied significantly with distance from the forest edge.

Bernard M. Kissui, Serengeti Wildlife Research Institute, Tanzania

Coralie F. Abbott, University of Cambridge, UK

1998
