

Past Research Student Info and Abstracts

Nika Ogilvie Bellchambers
MSc in Biology
University of Copenhagen, DK
Behavioural Ecology Group
2016

Abstract:

Vervet monkeys (*Chlorocebus pygerythrus rufoviridis*) have been observed to form sleeping subgroups at night. These subgroups are believed to be a product of social preferences and in part influenced by the social order of the troop members. This study aimed to investigate “Who Sleeps with Whom?” in a troop of captive vervet monkeys held in a semi-natural enclosure more than 3,000 m² through the research questions: 1) Are sleeping partners chosen randomly or is there a consistency in the nighttime aggregations?, 2) Are sleeping partners chosen based on their kinship, gender, age and/or rank?, and finally 3) Is there a correlation between factors that affect associations and interactions during the day with the nighttime associations? Previous work has failed to address all of these factors and the empirical evidence presented has had limited empirical evidence for the nighttime associations being determined by the social order of troop members. Furthermore, most of the existing research dates back decades and has resulted in opposing conclusions. Data was collected over the course of 4 months through focal observations on sleeping subgroups at night as well as through observations on proximity, socio positive and agonistic interactions during the day. This study adapted a social network approach, amongst other statistical approaches, which has not yet been implemented in similar studies and found that individuals showed preferred and avoided associations during the night. Matrilineal kinship units and gender were found to be significant factors for whom adults sleep with; adult females with infant and juvenile kin would sleep with offspring approximately 100% of the time, and males were never observed sleeping with other troop members. Females without offspring, on the other hand, would form sleeping aggregations with other females of all ages. Results on age and position in the dominance hierarchy suggests that individuals of adjacent rank will prefer to sleep together, with a greater tolerance towards juveniles of dissimilar rank, however, this could not be statistically tested for. Affiliative relationships and close spatial proximity during the day significantly explained more than 40% of the variation in pairwise sleeping partner associations.

Kasper van Oort
MSc in Behavioural Ecology
Utrecht University, Netherlands
2016

Title: Assessment of the release of rehabilitated vervet monkeys (*Chlorocebus pygerythrus rufoviridis*) in Kasungu National Park, Malawi

Abstract:

As the result of increasing habitat destruction and human-wildlife conflicts, large numbers of vervet monkeys are being killed, injured or become orphaned. Although as species not threatened, individual vervets are thus being threatened. In Malawi, this has led to the vervet monkey (*Chlorocebus pygerythrus rufoviridis*) as being one of the most common animal in rehabilitation centres. This increasing numbers of rescued vervet monkeys leads to the problem of the ability to provide shelter to all animals in need of help. A solution to this is to rehabilitate these rescued animals and reintroduce them back into the wild, with the primary goal of improving their welfare. Despite the huge amount of rescued vervet monkeys, so

far the success of releasing vervet monkeys back into the wild has not been intensively studied yet. A better understanding of this could be of great value to improve the well-being of former captive animals. Therefore, in the current study the adaptability of a troop of released vervet monkeys in the first period after their release was assessed by collecting data on their activity budget, daily movement patterns, and physical condition. In addition, possible influences of food provisioning were studied. Therefore, focal observations were conducted, and GPS locations were collected throughout the observation days. Every two weeks the physical condition on the released individuals was scored by giving body condition scores, and by looking at possible injuries and signs of lethargy. The results showed that more time was spent resting and vigilant while food was provisioned compared to when food was no longer provisioned, while less time was spent foraging and on stress-related behaviours. Shorter distances were travelled in the period of food provisioning compared to the period without this. No influence of provisioning was found on the physical condition. The daily activity budget roughly resembled those of wild vervet monkeys. No abnormal behaviour and low levels of stress were observed. The body condition of the individuals improved over the entire period of observations. These findings indicate that the well-being of the released troop improved, and as this was the primary goal of the release, it can thus be considered a success. Most important factors in the release of a social group seem to be high group cohesion. This is best achieved by giving the group sufficient time in a pre-release enclosure. Also enough time in a release enclosure seems highly important, to improve site fidelity and decrease the chance of unwanted dispersal and group fissions.

Carly Senst

MSc in Tropical Ecology

Faculty of Environmental Sciences and Natural Resource Management (MINA)

Norwegian University of Life Sciences (NMBU)

2017

Title: Stress and parasitism in translocated vervet monkeys (*Chlorocebus pygerythrus*) in Malawi

Abstract: Wildlife translocations are a contentious practice that is on the rise. Wildlife rescue and release centers are one of the largest practitioners of translocation, but are often overlooked by the scientific community. In order to increase the success rates and efficiency of translocation projects it is necessary to highlight the reasons for project successes as well as project failures. This study aims to explore the relationship between two of the most commonly cited reasons for translocation failure, stress and illness, in a troop of translocated vervet monkeys (*Chlorocebus pygerythrus*) in Malawi. To do this, level of stress was determined through behavioral observations while binomial infection status and infection densities of parasitic helminth groups was determined through collection of fecal samples and a variety of diagnostic techniques. These translocated individuals showed higher helminth eggs per gram (EPG) than their wild counterparts. Individuals that displayed more stress related behavior had a higher chance of being positive for helminth infection, strongly suggesting that immunological impact of chronic stress incurred from being held in captivity. Juveniles tended to be more stressed than adults even though they tended to have lower EPG's. This discrepancy may be explained by the fact that juveniles alter social interaction with infected individuals, possibly to reduce the chances of being infected themselves. These results show that there is a significant relationship between stress and helminth infection. This conclusion has wide-ranging management implication both in the translocation field as well as more general wildlife management.

Bethany Harrison

University of West England

Msc
2017

Title: How do the Activity Budgets Differ Between Captive Pre-Release Vervet Monkeys (*Chlorocebus pygerythrus*) and Wild Vervet Monkeys?

Abstract: A number of primate species are threatened by anthropogenic pressures such as hunting for the bushmeat and pet trades and human-wildlife conflict. African organisations and trusts are working to fight these threats by enforcing new laws and rescuing, rehabilitating and releasing primates back in to the wild away from potential threats. The vervet monkey (*Chlorocebus pygerythrus*) is commonly rescued by the Lilongwe Wildlife Trust and large groups are released every year. The study investigates whether there are differences between the activity budgets of pre- release vervet monkeys at Lilongwe Wildlife Centre and wild vervet monkeys in Amboseli National Park. Instantaneous and continuous focal and group scan sampling were carried out on eighteen individuals for ten weeks. A possible thirty-two behaviours were observed and recorded which included simple behaviours such as resting and feeding to more complex behaviours such as threat, mating and stereotypies. Results showed that the pre-release vervets spent more time resting and less time moving and scanning than the wild vervets. Also adult males spent more time scanning and resting whereas females spent more time grooming and juveniles spent more time feeding. The results provide evidence that behaviours of captive rehabilitated vervet monkeys differ from wild vervet monkeys. Methods such as enrichment and anti-predator training should be considered for pre-release troops in order to improve chances of exhibiting wild type behaviours and therefore increased survival in the wild.

Ellie Darbey
MSc in Primate Conservation
Oxford Brookes University, 2017

Title: Factors influencing presence of blue monkeys (*Cercopithecus mitis*) in naturally fragmented Afromontane forest patches of Nyika National Park, Malawi.

Abstract: Very few studies address primate research and conservation in Malawi, although the presence of up to seven primate species has been recorded throughout the country. Primates are absent from nearly all national conservation action plans and policies, due to the lack of baseline data required to create effective management and conservation strategies. Here, we aim to provide novel data that contribute to this dearth by assessing the abundance and distribution of *Cercopithecus mitis* in Nyika National Park (NNP). We used presence-absence surveys to determine occupancy of *C. mitis* in 27 naturally fragmented forest patches from May to July 2017. Two aspects of habitat characteristics were measured: spatial geometry of the patch using satellite imagery, and floral composition from vegetation plots. Eighty-one individuals were detected in eight groups, occupying six out of 27 forest patches (ranging from 6ha to 100ha). Area and irregularity of patch shape had some influence on the presence of *C. mitis*; whilst vegetation composition was not a good predictor of presence, owing to the similarity among patches. Inter-patch dispersal was observed, suggesting that *C. mitis* have adapted to this fragmented landscape by adopting several patches into their home range. Anthropogenic disturbance through poaching and controlled grassland burning was prevalent in NNP during the study period, though effects on *C. mitis* populations are unclear. Information on the adaptations of primates to small, naturally fragmented forests can help predict the response of those in forests undergoing fragmentation. These findings will inform the Department of National Parks and Wildlife on the presence of *C. mitis* in NNP, and the importance of protecting small forest islands. We recommend these surveys be repeated and expanded, using this study as a baseline from which future populations of *C. mitis* in this unique Afromontane ecosystem can be monitored.

Amelia Buxton
Royal Veterinary College
MSc in Wild Animal Biology
2018

Title: Behavioural differences between a pre-release and non-release troop of vervet monkeys: Do these affect suitability for release into the wild?

Abstract: Primate rehabilitation is becoming increasingly necessary as anthropogenic pressures are threatening more and more primate species. Part of the rehabilitation process is behavioural assessments, which includes evaluating whether each individual within a rehabilitation centre possesses the behavioural qualities that are essential for survival in the wild. For primates, this consists of social behaviours such as grooming, playing and contact, as well as foraging and vigilance behaviours, which are all necessary for individuals to thrive in a wild environment. This study aims to assess behavioural differences between a group of individuals that have been selected to be released into the wild and a group that have been deemed unsuitable for release into the wild. The main aim is to provide evidence that the management team at Lilongwe Wildlife Centre, Malawi, have made the correct decision in selecting the individuals within the release group. The results of this study show that the pre-release group had an overall higher frequency for the majority of essential behaviours needed for survival in the wild when compared to the non-release group. This provides evidence that the management team made the right decision in selecting the individuals in the pre-release group as they exhibit the behaviours required to make them suitable for release into the wild.
