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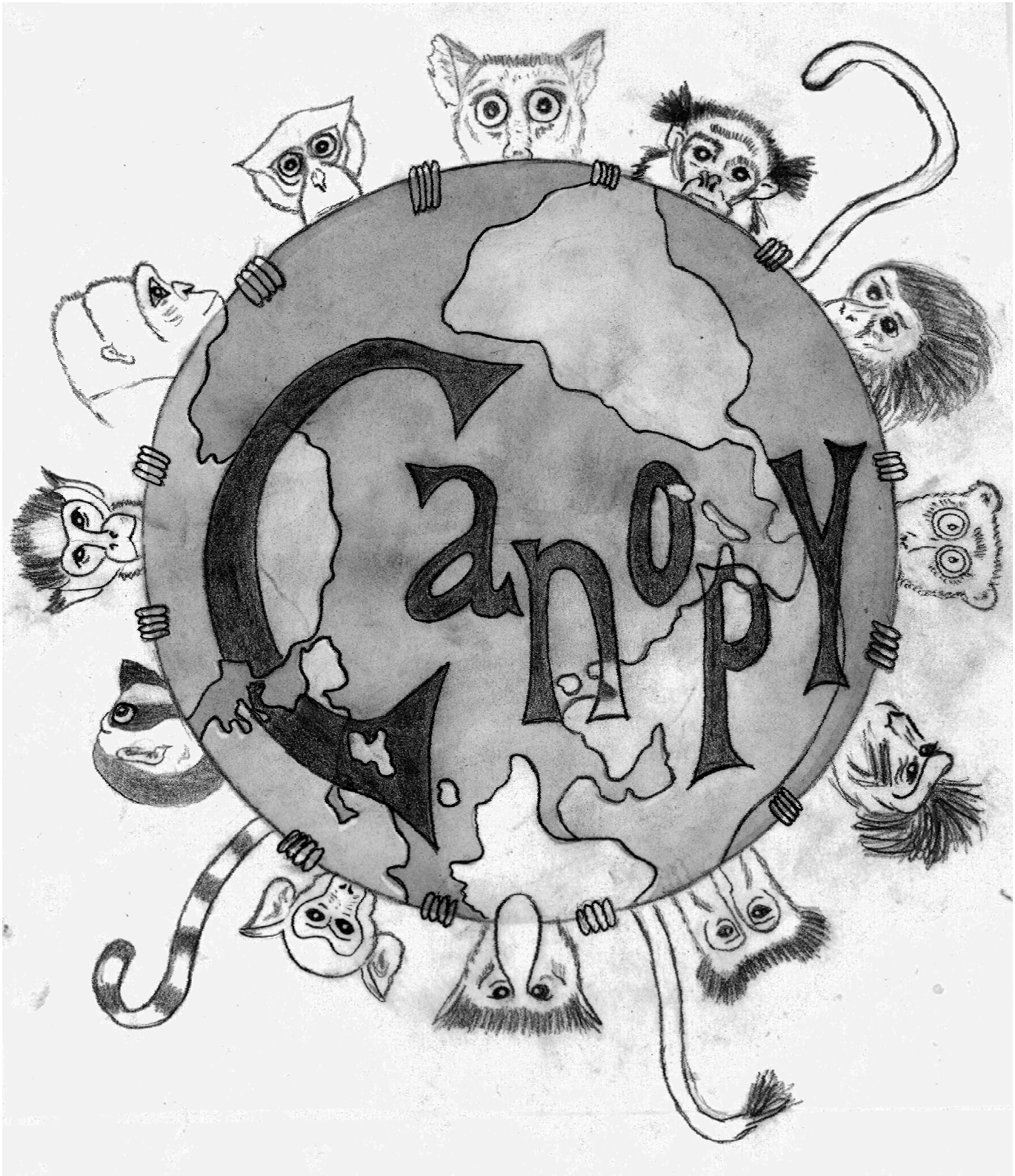

Journal of the MSc Primate Conservation

Canopy
Journal of the Primate Conservation
MSc Programme
Oxford Brookes University

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Front Cover Illustration
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This issue of Canopy is printed on recycled paper.

Contents

Letter from the Editors

We are very pleased to bring you the newest edition of canopy, the MSc Primate Conservation in-house journal. The course continues to grow with habitat-country students this year from Rwanda, Uganda, Indonesia, and Panama, and new staff members from Italy, Holland, and the UK. The 2007-2008 cohort is excited and passionate about beginning promising careers in the field of primatology. We hope to follow in the footsteps of our tutors, whose work and research spans more than four decades. We appreciate their guidance and advice, which provides us with a solid foundation on which to build our careers as primate conservationists. Special speakers throughout the semesters are invited to join the students and share their personal experiences, giving us broader perspectives on primate conservation (page 36).

This journal also reports on a diverse selection of research from current and past students. Pedro Mendez reviews the primate conservation history of Panama up to the present day (page 4). Times are changing and new ways to raise awareness on the plight of primates are highlighted by Ross Tindale, who launched a clothing company with a percentage of the profits donated to mountain gorilla conservation (page 12). As conservation efforts slowly expand and reach a wider spectrum of the public, we have faith that there is a more optimistic future for our primate relatives.

We sincerely hope you enjoy reading about the many conservation issues that interest current students, and which inspire us to continue conducting research focussed on securing the long-term peaceful coexistence of people and primates.

Best Wishes, Mucha Suerte, Beste Wensen, Fanaka Njema, Glædelig Jul, Ibihe Byiza, Meilleurs Voeux , Selamat Hari Natal, Mazal Tov.

The Editors

Michelle Jachimowicz (USA) Suzanne Turnock (UK) James Thorn (UK)

"They always say time changes things, but you actually have to change them yourself"
– Andy Warhol (1928 – 1962) US artist

Letter from the course tutor

We are very proud to announce that Oxford Brookes University has recently been awarded the Queen's Anniversary Prize for excellence in higher education on the strength of its MSc in Primate Conservation. The names of the 20 prize winning institutions were announced at St. James Palace on 15 November 2007 and there is to be a celebratory banquet on 13 February 2008 and a ceremony on 14 February at Buckingham Palace when the certificates and medals are presented by the Queen. We have been able to invite a small number of our staff, students, alumni and supporters to these events to thank them for making it all possible, but we are planning to extend the celebrations to everyone who has been involved over the last eight years in ensuring that the course is effective and fun.

The first intake in 2000 included 17 pioneering students who also helped in the design and planning of the course, including two who acted as guinea pigs for the development of an experiment in distance learning. Since then the Oxford-based course quickly increased in size to 30 students each year, and more recently to nearly 40 per year, each completing six taught modules and a final research project on a subject of their choice. The grand total now stands at more than 250 conservation projects in 43 different countries. Particular thanks go to our visiting lecturers who have enabled us to ensure that each module is led by someone with specialist experience, and to the external speakers who have contributed to our popular weekly Conservation Seminar Series that has been running since 2002.

Our students have a passion for protecting the world's rapidly declining wildlife resources and have the determination and energy to make a difference. In the last year alone they generated grants of over £20,000 from 18 funding organisations to support their 'fieldwork' - at zoos, museums, schools, sanctuaries and in the wild. The experience they have gained plays a vital role in helping them to establish a career in conservation and to be more effective in bringing awareness of conservation issues to a broader public. The task is indeed daunting, but the enthusiasm and energy of our students gives cause for some optimism. Notable achievements are illustrated by graduates from primate habitat counties who, not only raised money to support their fees and living expenses, but also completed a masters level degree in a second language and in a culture very different from their own.

Canopy provides a flavour of their recent activities. You can find further information about primate conservation on our web site:
http://ssl.brookes.ac.uk/primate/home.htm
You are very welcome to attend our seminars in the Lloyd Board Room of the Headington Campus on Mondays 6-7 pm and afterward at the Angel and Greyhound. We are currently putting together our programme for 2008 and would be delighted if you would be willing to give a talk.

Simon Bearder, skbearder@brookes.ac.uk
Professor of Anthropology,
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MSc in Primate Conservation
December 2007

Photograph by Michelle Jachimowicz

Article

Historical Perspectives of Primatology in Panama: From The Panama Canal to the Present Day

by Pedro G. Mendez-Carvajal
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Azuero howler monkey: an endemic and Critically Endangered species from Panama. Photograph: Ivelisse Ruiz-Bernard

Panama, located in Central America between Costa Rica and Colombia, has been one of the first countries to contribute to our knowledge of New World Monkeys. With a strategic location, and being small in size, it is heralded by geographers as the "sleeping S-shaped isthmus." Working as a bridge between North and South America, Panama has facilitated a significant interchange of fauna between these two regions, and enabled scientists from different parts of the world to collaborate. Primatological research in Panama was initiated by scientists from the United States wishing to explore the tropical fauna and flora and valorize the tropical biodiversity when the creation of the Panama Canal took place. These studies started in the early 1900s when the canal builders, hounded by malaria and heavy rain, were fighting hard to infiltrate the dense tropical forest of central Panama. New study techniques implemented by the United States government were flowering, such as the work of Dr. William Crawford Gorgas to stem the threat of malaria, and at the same time the studies by the Panamanian Dr. Luis de Roux to eradicate tuberculosis, both supported by Dr. Belisario Porras, President of Panama (1921). Biological methods were applied to detect vectors of disease, and part of the results in understanding the malaria cycle were due to the use of colonies of *Aotus zonalis* in vitro.

After the Panama Canal was inaugurated in 1914, scientists became interested in the long term study of Panamanian fauna and flora, due to the high levels of biodiversity found in the region. They noted that the highlands of the Canal Zone still had some remaining forest patches for potential study sites, and identified the artificially created Gatun lake as a suitable place to establish a scientific base for tropical medicine studies. In 1923, after various meetings and negotiations with high commands of the Panama Canal Zone from the United States, the territory of the biggest island in the middle of the canal was dedicated to research. The island was on top of the mountain neighbouring the Barro Colorado town, submerged by the overflow of the Rio Chagres in the artificial lake Gatun, reasons for which the island was named Barro Colorado Island (BCI).

The Biological Zone in those days was under the jurisdiction of the Panama Canal Watershed, and was later administered by the Smithsonian Tropical Research Institute (STRI) and the Panama Environmental Authority (ANAM). Briefly, new scientists started running research projects on the island and primates were targeted. Among some of the primatologists that have carried out research in BCI since 1923 are: F. Chapman, C. Carpenter, M. Moynihan, C. Southwick, N. Collias, J. Oppenheimer, D. Chivers, R. Mittermeier, K. Milton, C.

Campbell, and a number of others. The most studied species on the island at the time was the Equatorial howler monkey (*Alouatta palliata aequatorialis*), where research about its ecology, population and diet illustrated the complicated dynamics of monkeys in a tropical rainforest.

The history of primatology in Panama does not stop in BCI however. There are a number of projects conducted by Baldwin and Baldwin since 1971, which involve research on *Alouatta palliata palliata* and *Saimiri oerstedii oerstedii* in the Chiriquí high lands in west Panama. Taxonomic research carried out by Froehlich and Froehlich in 1987 aimed at determining the existence of new species, the Coiba island howler and the Azuero howler (*Alouatta coibensis*). Reintroduction studies resulted in the formation of the Panamanian Primates Refuge by Dr Dennis Rasmussen (early 1980s) with support from Florida State University. Further contributions have been made by United States scientists, such as the establishment of a field station at Bocas del Toro, which includes a primate field course run by the Institute of Tropical Ecology and Conservation (ITEC).

Visiting primatologists have also had a strong positive impact on the University of Panama and the Gorgas Commemorative Institute. Although there was no official link between American primatological research and students of the University interested in primates, Panama has developed studies as a part of the Gorgas micro-hunters team, initiated by Dr. Eustorgio Mendez. This team of researchers has carried out different studies in the field of entomology, rodents and mammals in general. For his pioneering efforts in developing Panamanian science, Dr. Mendez was awarded the Order Manuel Amador Guerrero, a prestigious honor in Panama. Dr. Mendez has been a model for the new generation of Panamanian scientists since his first work on the mammal guide, and due to his position as head of the Vertebrates Museum at the University of Panama. Resulting studies of primates by Panamanians in the early 1980s were initiated by Dr Felix S. Nuñez, who was the first person in Panama to realize the need for a Panamanian Primate Foundation. The idea was accepted and the organization created, yet it remained inactive for a few years due to a lack of members and insufficient support. Following on from this initial movement, work was carried out on the adaptation of populations of *Alouatta palliata trabeata* in a fragmented forest by Lic. Carlos Brandaris, and population studies of *Saimiri oerstedii* by Jacobo Araúz MSc and Ariel Rodriguez MSc, from the University of Panama. Both Araúz and Rodriguez have been linked to the Mesoamerican Society and have represented Panama in different congresses, publications and conservation initiatives since the 1980s.

Prior to 2000, no long-term projects had yet been established by a Panamanian, until a student from the University of Panama, through their own interest, began research on the Azuero howler monkey. The project's urgent goal was to conserve two primate taxa - *Alouatta coibensis trabeata* and *Ateles geoffroyi azuerensis*, which have both been classified as Endangered. The project was later supported by the Panama Mammal Society (SOMASPA), and in establishing the Primatology Commission represented the first

authority charged with carrying out ecology and conservation of Panamanian fauna. The Panama Mammal Society was created by Dr. Rafael Samudio Jr. who obtained his Doctorate of Philosophy in 2002 from the University of Florida. He then came back to Panama with the dream of a long-term scientific project that would represent the needs of the Panamanian fauna.

Recently, the Primatology Commission of SOMASPA has developed strong conservation activities for Azuero primates, due to stickers, videos and photos, local and international publications, annual primate population surveys, interviews, scientific congress participation at the international and national level and most importantly, the incorporation of biology students from the University of Panama that can be trained in primatology to carry out more research in the future. The Azuero endemic primates project has been supported by partial funds from The Nature Conservancy, Primate Conservation Inc, the help of Ivelisse Ruiz-Bernard MSc, Dr Robert Horwhich, Noel Rowe, the Neotropical Primates Journal, Dr Anthony Rylands and Dr Liliana Cortes-Ortiz. Also included is an associated project of the Florida Museum of Natural History, supported by Dr David Reed and doctoral candidate Julie Allen.

The final giant step for primatology in Panama has been the recent award (as a "habitat country") of a scholarship to pay for the tuition fees of a Panamanian student to study for the MSc in Primate Conservation at Oxford Brookes University, UK. This world renowned course was created and is currently led by Prof Simon Bearder and Dr Anna Nekaris. This is considered a huge step due to the lack of Panamanian biologists specializing in primatology, and at the same time the urgent need to take care of at least 13 subspecies of primates that reside in Panama. The revolutionary movement of Panama since 2000 could be considered as the awakening of the "s-shaped isthmus", ensuring the long-term future of primatology in Panama, and a continuation of conservation efforts that strive to protect its endangered primate species.

Ex-students in the field

Community development and adaptability in community conservation projects: A look at *Amigos de los Monos* in its inaugural year

by Katie Mann
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Effective community conservation depends on a firm grasp of the concepts of conservation and local communities, and are often initiated by external catalysts (Western, 1994), like Katie Mann, who is approaching her first year of working on the project *Amigos de los Monos* in the Burica Peninsula of southwest Costa Rica. She works in association with Dr

Robert Horwich and his NGO, Community Conservation Inc (Brown, 2007).

The mission of *Amigos de los Monos* is to ensure the longevity and health of the monkey populations of the Burica Peninsula. By using the endangered spider monkeys (*Ateles geoffroyi panamensis*) as flagship species and community conservation strategies, the project seeks to unite the multicultural community of the Burica Peninsula to achieve this goal in a socially sustainable manner. The community there consists of the indigenous Ngäbe (GuaymÌ), the rural Costa Ricans, and the slew of foreign property owners.

Horwich *et al* (2006) outline five project goals for community conservation programs, which include: conservation, research, economic development, education/outreach, and community development. Although *Amigos de los Monos* is working to achieve all of these goals, this article will focus on the latter and the need for conservation practitioners to remain adaptable by taking a learning-process approach (Pimbert and Pretty, 1998) to their conservation efforts.

Community development is the backbone of any community conservation programme, with the ultimate goal of a project carrying on beyond the involvement of the project catalyst. Project sustainability relies on developing the management capacity of a community-based organization in order to identify problems, propose solutions and act in an effective manor (Horwich *et al* 2006). Organizing the community has shown to be the most challenging aspect of developing *Amigos de los Monos* thus far, due to a complex web of social and logistical issues. The cultural heterogeneity of the area, with the subsequent social hierarchies and distrust, particularly among the Costa Ricans and the Ngäbe, provide a clear obstacle that must be delicately addressed. Naturally, the Ngäbe were also wary of Mann, unsure of her intentions and motivations.

Even within a homogenous group of people (e.g. the Ngäbe) there are aspects that inhibit community development including traditional society, the isolated location of homes, the lack of modern communication, a low level of education, and the presence of government assistance. Traditionally, the Ngobe are swidden agriculturists that function in a kin-based society without centralized governing systems (Young 1982). Despite the politicization of the Ngäbe and the presence of a modern governing body, very few people participate actively in this process. Coupled with the isolation of homes and the lack of modern communication, organizing has proven to be difficult. This is further complicated by the presence of government assistance and the low level of education, which inhibit the ability of an external catalyst to motivate the people to work at a grassroots level. Other NGOs (Govan 2000) have reported the same difficulties of organizing the Ngäbe to work cooperatively in addition to other people in this area who have tried to initiate craft cooperatives with no success. Simply put, among the Ngäbe, the need to improve the welfare of each family, and the resultant competition among families, prevents the ideal level of cooperation desired in community conservation initiatives.

In the face of these challenges, *Amigos de los Monos* has taken an adaptive, learning-process approach to

community development since its creation. Whereas the initial idealistic goal was to create a monkey conservation group among the Ngäbe that would ultimately function independently, it has chosen to focus its energy on the group of COVIRENAs (Vigilance Committees of Natural Resources) that were organized by the government agency MINAE (Ministry of Environment and Energy) in October 2006, months before the arrival of Mann. COVIRENA mobilizes volunteers from the local communities to enforce the environmental protection laws (wildlife, forests, water, air, soils) by granting the authority to denunciate illegal activity.

Throughout 2007 *Amigos de los Monos* has been working closely with the group that is responsible for patrolling the principle habitat of the spider monkeys. With the current funding from the Margot Marsh Biodiversity Foundation, walkie-talkies and a cellular telephone have been acquired to assist the COVIRENAs in their valiant efforts to protect their natural resources. A grant-writing workshop was held where the group learned the realities and complexities of soliciting foundations for financial assistance. Together, workshop participants decided that if the monies were received they would go towards supplying food for workdays; communication and field equipment; and training for conflict resolution, data collection techniques and computer literacy. Unfortunately, the grant was not secured. Once funds are available for such training and assistance, it is hopeful that the COVIRENAs will acquire the appropriate skills to manage the project with increased autonomy to ensure project sustainability. Additionally, it is anticipated that these skills will transfer to other aspects of life for the community members who are increasingly integrating themselves with the non-indigenous society.

The collaboration with COVIRENA has shown to be a very important and positive process in overcoming the distrust between the community members and Mann, a critical advancement in any conservation work. This experience also offers an important lesson to all external project catalysts. We may enter a field situation with our pre-conceived notions and desired outputs, but we must remain flexible to onsite realities, such as cultural differences and logistical constraints, take opportunities as they come, and remain forever adaptable in the process of working with communities to conserve natural resources.

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Galagoides rocos **by Helen Simmons**

Community Conservation Project for the Yellow-Tailed Woolly Monkey *(Oreonax flavicauda)*, Peru

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The yellow tailed woolly monkey (*Oreonax flavicauda*) is Critically Endangered and currently features as one of the world's 25 most threatened primate species. (www.primate-sg.org/newT25.htm). *Oreonax flavicauda* is only found between ~1500-2500 meters above sea level within the Tropical Andes Biodiversity Hotspot in the departments of Amazonas and San martin, Peru. The species is also restricted to areas of primary montane cloud forest (Butchart et al 1995). The area of this species distribution is characterized by low levels of economic development and the highest rates of human population growth in Peru. Constant immigration into these areas has led to clear cutting of large areas of forest. The heavy rains and steep slopes leave land unsuitable for agriculture and farming after just a few years, at which time people move on to new areas. A preliminary study (Shanee and Shanee 2007) conducted between March and May 2007 showed that the main threats facing *Oreonax flavicauda* throughout its range are deforestation and hunting, even within officially protected areas.

We have identified the lands of the Communidad Campesina de La Esperanza as a priority area for the conservation of this species. The forests in this area currently form a natural

Photograph by Sam Shanee

Rescued infant *O. flavicauda*

corridor linking three protected areas and we have verified the existence of the species in the area. We have also confirmed the presence of the endemic and little known Andean night monkey (*Aotus myconax).* Due to extremely difficult terrain, climatic conditions and the large migrant population, very little research has been made on either of the species.

The immediate threats to the primate populations we identified in this area are timber extraction, clear cutting for cattle ranching and land trafficking. Two mining companies are also currently operating in the area and an ever growing human population. On the other hand we found local communities very open to conservation ideas and willing to cooperate in the development of this project. The main project objectives are:

1) Creation of a community-run reserve to protect this natural corridor. This will ensure the future of this forest refuge and genetic flow between populations, thus reducing loss of

fitness through genetic drift and in-breeding.

2) Census and ecological research on mammals focusing on primate species within the proposed reserve area. We will also investigate the possibility of triangulation using playback techniques to improve accuracy of population estimates for *O. flavicauda*.

3) Intensive education work for both local school children and the adult population. We plan to start an environmental education programme in all schools within communities involved with the project and arrange talks and workshops for adults focusing on conservation, and capacity building for sustainable development and economic alternatives.

4) Development of production and markets for alternative products such as handicrafts, weaving, and native agricultural produce to substitute income generated from logging, cattle ranching and non-native monocultures

5) Reforestation of unused pastures and other deforested areas with native tree species that have value to both human and non-human primates living in the area.

6) Upgrading of the Andean night monkey's (*A. myconax)* conservation status from Vulnerable to Endangered, to ensure that adequate investigation and conservation efforts are available for the species.

Persons who would like to help with census work, environmental education or GIS mapping of the area, or those with novel ideas that could be integrated into the larger project, are welcome to contact us at nogashanee@gmail.com. For more information see www.neoprimate.org

Photograph by Sam Shanee

Wild adult female *O. flavicauda*

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Article

Compassion in fashion: Conserving endangered gorillas through t-shirt sales.

by Ross Tindale

Growing up in Vancouver, Canada has had a significant impact on my personal and professional goals. As a child, I can remember spending days walking through Stanley Park looking at trees that appeared to touch the sky and looking for the animals that could be seen upon them. Ever since, I have loved the outdoors and I wanted to have a positive impact, especially on wildlife conservation.

My undergraduate career was spent at the University of Calgary where I completed a Bachelor of Science degree in Primatology. In 2003, I had the opportunity to study black howler monkeys (*Alouatta pigra*) in Belize with Dr. Mary Pavelka, which furthered my interest in primates and conservation. After completing the Primatology programme at the University of Calgary, I entered the Bachelor of Education program at the University of Western Ontario, which I completed in April 2007. Applying to the MSc program at Oxford Brookes University was a natural progression towards my career goals.

In June 2007, I formed a clothing company called So Amp.d Designs in an effort to raise funds and awareness for endangered mountain gorillas. The premise was to introduce a line of t-shirts and sweatshirts that are produced within North America and donate 20 percent of the proceeds to organisations that support mountain gorilla conservation. The idea to enter the clothing market came from a lack of environmentally friendly options within the extreme sports community. Many of the popular names within the skateboarding, BMX, and surfing communities are owned by large corporations. Clothing is mass produced with little concern for the environment. All models appearing on the website are donating their time and photographs in order to be a part of the project. In return, symbolic gorilla adoptions are made for their support of So Amp.d Designs. The designs for the clothing are taken from my own personal interests such as skateboarding and independent music.

Photoaraphs by Ross Tindale and Patrick Mattison

Samples from the So Amp.d Designs clothing line

One of my main goals is to introduce primate conservation to a new demographic. The extreme sports community spends billions of dollars annually on apparel with relatively few environmentally friendly options. My

future goals include directing a non-profit film on great apes and working towards a PhD. My research interests include fundraising; film; great ape behaviour and ecology; and comparative primatology.

For more information on So Amp.d Designs email Ross at rosstindale@hotmail.com or go to www.skate2save.com

MSc Student Research (2006 – 2007)

Behavioural Data of Captive Greater Slow Loris (*N. coucang*) & Javan Slow Loris (*N. javanicus*), and a survey of Javan Slow Loris in Mt. Salak, West Java, Java

by Rebecca Collins

Efforts to maintain and restore loris populations are being planned through changes in captive management, particularly within Indonesian rescue and rehabilitation centres (Jaffe, 2006). Housing these nocturnal species also allows for researchers to study behavioural traits that may be difficult to be viewed and interpreted in the wild (Rasmussen, 1986; Fitch-Snyder and Elrich, 2003).

Photograph by Rebecca Collins

***N. coucang* infant feeding on a cricket**

Studying a group of greater slow loris (*N. coucang*), consisting of two adult females and five infants, at the Pusat Penyelamatan Satwa (PPS) Forestry Department Rescue Centre in Bandar Lampung, Sumatra, provided such an opportunity. Confiscated by local government authorities from the illegal pet trade, these seven individuals were monitored for six weeks before they were released back to the wild. Observations regarding feeding and substrate preferences, as well as social interactions between conspecifics were recorded during this two month period in efforts to gain further insight into the greater slow loris' activity budget and infant development.

Similar to *N. pygmaeus*, the greater slow lorises also displayed gouging regularly on flowering branches, suggesting that their diet also consists of nectar and tree exudates (Tan and Drake, 2001). Food preferences between *N. coucang* and *N. javanicus* varied slightly, however future studies are required to determine differences of food preferences and behaviour between the two species, as a larger sample size of *N. javanicus* is required.

During this period all seven *N. coucang* individuals began to develop healthy appetites and infants foraged and fed on arthropods, birds, and fruit independently. As a result of the groups' stability, PPS began exploring options for release during May and a decision to relocate the group to the wild was made by the end of the month. Arrangements for the release were quickly orchestrated, as a release site was pre-determined due to a survey conducted by IAR in the previous year at Batutegi, Southern Sumatra.

The transfer of *Nycticebus* sp. to CITES Appendix I recognizes their threatened status (Nekaris and Jaffe, 2007), and previous field studies have concluded that slow lorises occur at low abundance throughout much of their range (Nekaris and Nijman, 2007). A population survey of the Javan slow loris (*N. javanicus*) noted similar results as only three sightings of this species occurred over 57 km. scanned during two weeks. Therefore, this study supports the need for future release projects in attempts to preserve slow loris species.

This project was partially funded by International Animal Rescue.

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Photograph by Rebecca Collins

***N. couang* adult released at Batutegi, Southern Sumatra**

An Investigation of Parasites in Cercopithecine Primates of Southern Nigeria

by Sagan C. Friant
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Semi-captive mona guenons (left) and red-capped mangabey (right). Photographs by Sagan Friant

It is not abnormal for western worlds to assume that the natural state of being is one without disease and sickness; however, disease plays a very conspicuous role in human demography. It is therefore likely that disease plays an equal or greater role in plant and animal populations, which do not have the luxury of modern medicine.

Changes in land use practices that bring humans, domestic animals and wildlife into contact influence the involvement of wild animals in disease emergence (Wobeser, 2002). In primates, disease emergence can occur directly through human introduced diseases, or indirectly through human induced changes in the disease ecology of wildlife. Scenarios which can alter primate-parasite ecology include encroachment by humans into wildlife habitat, keeping of non-human primates as pets, in zoos or as laboratory animals, and/or hunting them for food. These circumstances provide an opportunity for disease transmission between humans, captive animals and wild animals. Ironically, primate conservation efforts, including re-release and rehabilitation programs, also create a scenario in which all three factions come into contact.

CERCOPAN primate sanctuary in southern Nigeria provides an excellent opportunity to study risks associated with parasitism in rehabilitation and release programmes. This study primarily investigated parasites in captive and semi-captive red-capped mangabeys (*Cercocebus torquatus torquatus*) and mona guenons (*Cercopithecus mona*) using standardized methodologies for non-invasive assessment of gastro-intestinal parasites of free-ranging non-human primates (Gillespie, 2006).

Photograph by Sagan Friant

Collecting fecal samples within 1 hectare forest enclosure.

Additionally, unpublished records of parasites of wild primates in various parts of southeast Nigeria were used to provide a preliminary comparison between animals under various stages of rehabilitation and parasites existing naturally within the

same geographic area. Finally, samples from a small group of humans (CERCOPAN staff) that work within the nearby forest area and in close proximity to the primates were taken to investigate parasites that may be natural to the specific region where non-human primates are housed and may soon be released into; as well as investigate potential zoonoses.

Photograph by Sagan Friant

Analyzing fecal samples in veterinary lab at CERCOPAN primate sanctuary (Calabar, Nigeria)

One protozoan (*Balantidium coli*) and five helminth taxa (*Trichuris trichiura, Capillaria* sp., *Strongyloides* sp., hookworm, and an unidentified strongyle) were found. All parasites were found at low levels except for *B. coli*.

Parasite prevalence, richness, and multiple infections were investigated across species and populations. Significant differences were found between species and living conditions, with semi-captive harboring greater levels of parasitism. Other factors that significantly impacted parasitism were place of birth and parasite treatment regime. There was no discernable effect of age class, sex, or dominance status on parasite levels.

All parasites found have been previously reported in Old World primates and humans (Ash and Orihel, 1980; Nunn and Altizer, 2005). However, Comparisons with previously analyzed samples from wild primates in Nigeria and samples from the local human population showed differences in some parasites present (though sample sizes were small for these groups and diversity of parasites is likely underestimated). Differences between factions warrant preliminary caution for rehabilitation and release programs. Studies investigating parasites of wild resident populations would be of extreme value in assessing risks associated with releasing animals into the wild.

Overall, the low output of parasites, lack of visible signs of sickness, and high breeding success in the semi-captive mangabey population suggests that parasitism is not having a large overall effect on the health of the population after being moved to a semi-captive environment where they are no longer treated for parasites.

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A pilot study on the diet, feeding ecology and home range use of the silky sifaka (*Propithecus candidus*) in the humid rainforest of Marojejy National Park, Madagascar

by Elise Queslin
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Photograph by Elise Queslin

View of the Marojejy National Park, Madagascar

Madagascar is recognised as one of the hottest hotspots due to the high endemism present on the island, but unfortunately this biodiversity is severely threatened by anthropogenic pressures resulting in habitat loss and hunting. The silky sifaka (*Propithecus candidus*) is one of the "World's Top 25 Most Endangered Primates" and listed as Critically Endangered by the IUCN Red List (Mittermeier et *al*., 2006). This lemur's population is only found in primary rainforests in the north east of Madagascar. Only two areas shelter this animal: Marojejy National Park and Anjanaharibe Special Reserve (Nicoll and Langrand, 1989). Although silky sifakas' habitat is still untouched, their fragile status urges the need for more research on this species.

Knowledge of an animal's dietary selection in their natural habitat is crucial in understanding the relationship between their diet, ecology is a central component of a species' biology and helps to understand many aspects of its anatomy (Lehman et al., 2005), survival, reproduction (Altmann, 1988), group dynamics (Tan, 1999), habitat requirements and social structure (Eisenberg et al., 1972).

Indeed, food distribution and food availability highly influences group dynamics such as population density, group size, habitat use, and ranging behaviour. Efficient conservation measures of wildlife require knowledge of these interactions.

During a ten-week project the feeding ecology and ranging patterns of

a group of *P. candidus* was studied at Marojejy National Park, Madagascar, using scan sampling to document the general activity budget, and continuous recording focussing on their feeding behaviour. Eight belt transects comprising 1492 trees from 89 different species were surveyed floristically to determine the food availability and forest composition. Botanical samples were collected and dried from all plants fed upon by the group of six individuals. Species were identified in the field by a local botanist and later by a professional botanist.

The diet consisted of 76 species from 42 families but the bulk of the diet (species that constituted more than 1% or more of the total feeding time) was only 26 species. The focal animals spent 25% of their daily activity feeding and the diet, although folivorous (52% of the total feeding time) revealed an inclination for fruit (34%) and seeds (11%). Indeed, out of the top four most preferred foods, two fruit species were eaten, with one species providing seeds, and the fourth one being a vine leaf species.

They altogether accounted for 37% of the total feeding time. All group members preferentially selected young over the mature ones, matching the discrimination of most folivorous primates. The percentage of foliage from lianas was important and nutritional analysis should be conducted to understand this preference. No sex difference was observed in the time

Photograph by Elise Queslin

Wild silky sifaka feeding

spent feeding, but in the dietary composition, females consumed more fruits and seeds than males did. The selectivity index showed *P. candidus* to eat preferentially, but not exclusively, on low density species. They also selected the trees they fed upon. The use of the habitat suggested that large fruiting trees strongly influenced home range use.

The observed behaviour of the group during the study period is the result of spatial and temporal food availability as well as their physiological state. A long-term study should be conducted to understand fully the feeding ecology of *Propithecus candidus*. Nevertheless, new information on the biology of this species, although preliminary, adds to our knowledge of this taxon, and contributes to planning effective conservation measures.

This project was funded by the Zoological Society of London and the Margot Marsh Primate Action Fund.

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Black-headed night monkeys by Shenaz Khimji

MSc Primate Conservation 2007-2008

Photograph by Innocent Mulenga

Comment:

Primate Conservationists: The Stuff We're Made of…..

by Corrin La Combe
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Sometimes when I tell people that I study primate conservation, I get a strange look in response. I am not sure exactly what they are thinking, but I always get the urge to explain to them what attributes are needed to really make it in this field. Perhaps the qualifications, training and level of determination necessary to become a member of this profession are not readily apparent.

Academically we must be keen, learning principles from disciplines ranging from economics to genetics. We have to be armed with sufficient knowledge in anatomy, geography, physical anthropology, and evolutionary biology in order to discuss primate taxonomy, morphology, distribution and phylogeny. Comprehension of the politics of international relationships, historical events and current global trends is critical to manage travel, coordinate international partnerships and mediate agendas in places all over the world. It is also necessary that primate conservationists understand cultural anthropology in detail, respecting and acknowledging cultural norms, customs and traditions accordingly.

In the realm of the hard sciences, we study economics, accounting, statistics, and law. The theory of supply and demand, consequences of market booms and crashes, and repercussions of inflation and depression are discussed frequently in this field when determining driving forces responsible for the current positions of primates, indigenous peoples and tropical environments. The economics of all stakeholders involved in the conservation of an area must also be understood prior to the implementation of any conservation project. In addition to this, conservation biologists must always be equipped with knowledge and poise in lobbying for primate conservation at national, regional and local levels, which demands understanding of multiple levels of legislation, as well as animal trading regulations and restrictions. Alongside this, to maintain legitimacy, we master statistics to argue the significance of our findings.

Next I think about the physical and technological training it takes to become a primate conservationist. We must attend a 'boot camp' of sorts to learn tree climbing skills, CPR, jungle survival techniques, forest trekking and compass navigation. Lessons are given on the intricate workings of GPS units, sound recording devices, and complex computer programs like *Vortex*, *Distance* and *ArcGIS* to bring sense to our data. In addition to this, we are trained as teachers, authors, and photographers to bridge the gap between scientific finding and public discourse. Many of us also act as veterinary technicians and care givers able to lend a

hand in primate rehabilitation centres and zoo facilities at any time.

All of this is not to mention the passion and determination that is required to be a member of this team. We travel to often remote, isolated places; immerse ourselves in foreign cultures, and face precarious insects, animals and political agendas. Other challenges include steep muddy mountain inclines, surprises accompanying 'authentic' foods and primitive accommodations, yet we continuously and eagerly rise to these occasions in the name of this conservation science!

Only after sufficient comprehension of all of these subjects is a person ready to call him or herself a primate conservationist. So when those strange looks on my friends' faces finally turn into the question, "So basically you sit around and watch monkeys all day?" I simply respond, "Yeah, something like that…."

Queen's Anniversary Award:
The Oxford Brookes MSc course in Primate Conservation was awarded the Queen's Anniversary Prize in 2007. This prestigious award is granted to only 20 courses in the country and is meant to honour those courses, which make enormous contribution to international research and development. Students of 36 nationalities have attended this course and final projects have been conducted in over 43 countries. Members of staff and students are responsible for the identification of 10 new primate species and have authored numerous publications. Receiving this award exemplifies the level of hard work and dedication put forth by faculty, students and alumni in this course over the last 7 years.

Mountain Gorillas by Felix Ndagijimana

A Guide to Galago Diversity: The Design of a Website and a Comparative Study of the Morphology of Hands and Feet.

by Isobel Stephenson
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The taxonomy of the galagos of mainland Africa (Primates, Galaginae) has been widely disputed due to their cryptic nature, being morphologically similar but reproductively isolated. Phylogenetic reconstructions based on traditional methods such as pelage colour therefore failed to recognise the true diversity of species, whilst comparative studies of vocalisations, penile morphology and facial markings have led to conflicting hypotheses of classifications, and have limited use in museum specimens. The use of these alternate classifications has meant that studies often apply different names for specimens from identical wild populations, making comparative analysis difficult for the untrained researcher.

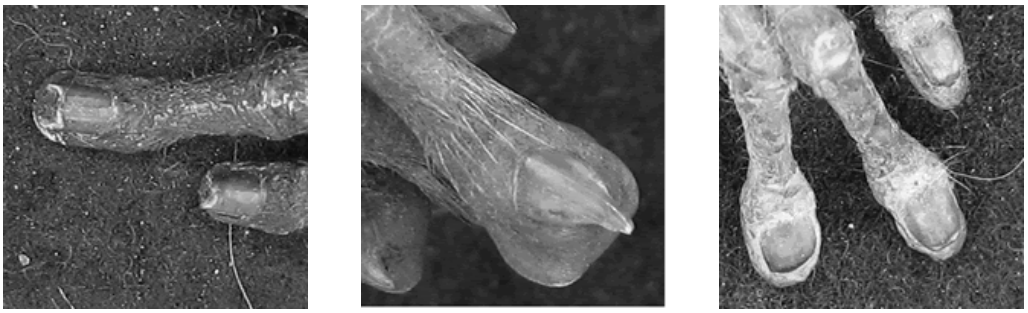
Provided by I Stephenson

Hand of *Sciurocheirus alleni,* showing the six distinct pads.

The research I conducted addressed these problems by investigating the use of comparative hand and foot pad morphology and nail shape for classification, a technique which can be applied to both live and preserved specimens. Four hundred and forty three specimens covering 15 galago species were examined at the London Natural History Museum and the Powell Cotton Museum, Kent. Digital images were taken and analysed in order to compare pad shape and size and nail shape across species.

Examinations of hand and foot pads identified six pads on the hands and feet of all species, differing from previous studies (Anderson, 1999; Anderson *et al*., 2000). Comparative analyses revealed differences in pad shape across taxa, and the study of pad size showed interdigital hand pad 4 and proximal pads 5 and 6 to be the best taxonomic indicators, whilst pads 4 and 5 proved the most divergent between species in the feet. Little variation was identified within taxa, indicating that pad morphology is a conservative feature and therefore suitable for identifying species.

Three nail shapes were identified within the five galago genera. *Otolemur* species can be distinguished by their concave distal nail ends on all hand digits, and digits 3 to 5 of the feet. *Euoticus*, the needle-clawed galagos, possess keeled and pointed nails. *Galagoides*, *Sciurocheirus* and *Galago* species have convex nails, with the exception of *Galago matschiei*, which is convergent with *Euoticus*.



Provided by I Stephenson

The three forms of nails identified in galagos. From Left to Right: concave, keeled/ pointed and convex.

The variation identified in the hands and feet of galagos is likely to have arisen through adaptations to specialist niches or '*adaptive zones'*. Galago species are known to occupy a variety of niches, so it is likely that substrate use varies between taxa. Consequently each species has developed adaptations due to differences in the external environment, including specific hand and foot pad morphology to optimise the degree of interlocking with the substrate, and nail specialisations to allow exploitation of a greater variety of niches (Anderson, 1999).

The results of this research indicate a potential use for hand and foot morphology in identifying galago species, which has important implications for their conservation. The lack of significant variation within species in each hand and foot lends support to the 24-species classification by Grubb *et al*. (2003), and works towards achieving the aim of the IUCN/SSC Primate Specialist Group that a suitable taxonomy needs to be agreed upon before attainable conservation goals are set. Through recognition of specialist adaptations to a particular niche we can identify species habitat requirements, thereby aiding conservation initiatives in planning protected areas and identifying species range limits. By using it in addition to other recognised taxonomic methods it will provide more reliable means of species identification and help recognise independent conservation units, which can help in assessing extinction risks to taxa and setting conservation priorities.

Recognition of the full extent of galago diversity is vital if successful conservation is to be achieved for all species. Whilst researching for this study it became apparent that many conservation organisations remain unaware of the recently recognised galago species. In particular, the IUCN, which assesses extinction risk to species, acknowledged just 15 out of the 24 species currently known. It is possible, therefore, that several species are represented which although together occupy a wide range, may include individual species that are highly

restricted and therefore in greater danger than is currently recognised (Zimmermann *et al*., 2000). In order to raise awareness of galago taxonomy a website was constructed to publicise the diversity of species and the techniques used in species identification, which can be viewed at www.galago.org.uk*. By publishing over the Internet it reaches a global audience, allowing conservation organisations to recognise all known species and set appropriate conservation priorities based on more reliable threat estimates, and allows researchers to gain access to current taxonomic methods so that consistent classifications are applied, making future studies easier to compare.

***Note:** A CD-Rom version of the website is available on request.

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PEACE- 'Primates, Environment, and Conservation Education': Development, Implementation, and Assessment of an Environmental Education Programme in Bangladesh.

by Mariah Mandelman
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Bangladesh is a small, densely populated country in Southern Asia. Due to its geographic makeup and other factors, Bangladesh is greatly threatened by environmental degradation due to current issues facing the natural world, yet much of the population remains unaware of such threats that could affect their livelihoods.

Through environmental education (EE) programmes, people can be provided with knowledge and tools that can help them mitigate and prevent environmentally damaging issues (Braus and Wood 1993). Additionally, aiming EE programmes at children can not only

promote positive attitudes towards nature that can encourage responsible actions in adulthood, but effects of such programmes can be augmented throughout the community via intergenerational transfer (Ballantyne et al. 2006). EE programmes can also promote development of important life skills through various interactive activities, such as critical thinking, communication, reasoning, and analytical skills.

Photograph by M Mandelman

Pair of Class 7B students discussing 'Animals of Bangladesh' description cards and trying to find matching pictures.

I came up with the idea of 'PEACE' after having spent 7 months living in Bangladesh as a US Peace Corps volunteer. Wanting to return, I felt this was a positive way to involve the children and address a series of problems that are plaguing Bangladesh. It was the intent of the programme to engage the children through interactive activities and promote interest and concern for the natural world, and it was predicted that through such a programme, there would be a positive difference in students' attitudes. Additionally, I anticipated that the students could gain much individually beyond merely enjoying the programme.

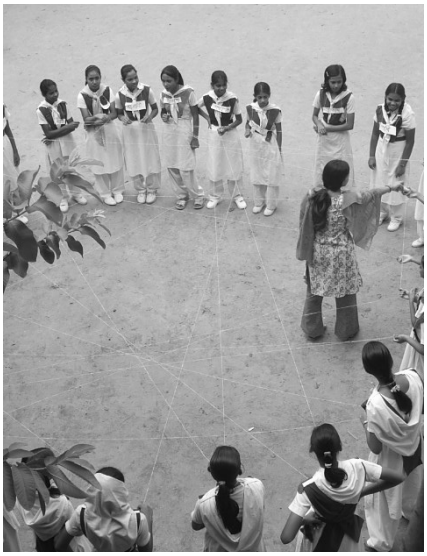
With assistance from the literature and given my previous understanding of the culture and formal education system, I was able to develop a 10-session programme addressing a variety of issues. This was delivered at the main site by a Bangladeshi co-teacher. Student attitudes were gauged through use of a pre- and post-questionnaire, and qualitative analysis was gathered through additional questions, behaviours, and comments from students and heads of schools.

Overall, the sessions were a tremendous success; students greatly enjoyed the sessions and each activity was met with a sense of excitement and anticipation. The students were very engaged and interested in participating, and even activities that were foreseen as being more difficult were wholeheartedly attempted.

Pre-questionnaire data from both the treatment groups and the control showed positive attitudes toward the natural world and environmental issues. This supports the use of such a programme given that concern for the environment has been linked to behaviour (Hungerford and Volk 1990), and EE programmes can promote behavioural changes and/or the incentive to take action. The post-questionnaires did not show as much attitudinal change as was anticipated, with significance being shown by one of the three treatment classes and the control group. However, it was possible that use of such an assessment method could have been less effective for the audience since questionnaires are rarely used and the Bangladeshi students could have misunderstood the practice despite guidance.

Overall, the PEACE programme showed success and promise regarding use of such programmes in Bangladesh. The programme was well-received by students, teachers, heads of schools, and community members, and hopefully the skills and teaching methods will be utilised again. Additional considerations I would make if planning a follow-up programme would be to investigate more effective and accurate quantitative assessment means and how to promote behavioural change and action skills amongst students.

This project was funded by the Open Meadows Foundation and Melinda Gray Ardia Environmental Foundation.



Photograph by M Mandelman

'Web of Life' activity with Class 8A students

Photograph by M Mandelman

Class 8A displaying their Zeebs.

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The Interaction Between Local People and Habituated Chimpanzees Around Kibale National Park, Uganda

by George Owoyesigire
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Tourism development programmes have habituated primates with the aim of enhancing successful visitor sightings and viewing experiences, adding value to nature-based tourism. Tourism and habituation activities however, face challenges of disease transmission, behavioural and ecological disturbances including possible displacement of animals from original home ranges, increasing their vulnerability to violent encounters with local people. Management decision making requires information on implications of habituating large-bodied and potentially dangerous animals such as chimpanzees. My study explored human-chimpanzee interaction around Kibale National Park (KNP) where three chimpanzee communities have been habituated for behavioural research and tourism purposes. Specifically, the study focused on interaction between the Kanyantale habituated chimpanzee community and adjacent local people. The study had four objectives; i) to assess the level of human-chimpanzee interaction and examine the causes and nature of interactions, ii) to examine the degree of support for chimpanzee conservation amongst local people iii) to assess awareness levels of chimpanzee habituation activities within the park amongst local people, leaders and civil servants and iv) to draw up appropriate recommendations for future planning for primate habituation, tourism development and educational programmes.

Semi-structured interviews were held with local people (N=106) in four parishes and other stakeholders. Two focus group discussions were conducted. Data were analysed using non-parametric statistical tests including Kruskal-Wallis, Mann-Whitney U and Chi-square to generate comparisons, differences and draw conclusions.

Photograph by G Owoyesigire

An habituated chimpanzee from Kibale N P

Chimpanzees were reported among the first five problematic animals due to crop raiding. Over 34% of respondents reported they had no problem with chimpanzees and the major reasons identified were that chimpanzees were not aggressive and not destructive to crops, although they were reported to occasionally raid sugarcane, banana and cocoa pods. Interaction levels were likely to be influenced by the existence of forest patches which act as habitat and migratory corridors, and also crops, especially sugarcane. A significant difference was observed in number and sighting frequency across the four sample villages. Two female chimpanzees with a clinging infant were reported to roam and destroy sugarcane in the two villages adjacent to the habituated Kanyantale community. The

individuals are reported to appear habituated. Their actual home range is not known. These could be peripheral or natal dispersing individuals of the Kanyantale habituated community. However, data on monitoring outside of the park to enable corroboration with local people's reports were lacking. Sightings to the eastern side of the park reported 10-15 individuals but the majority of these observations were 5-10 years old. Most forest fragments were being converted into farms for agriculture. The eastern edge also borders the Mpanga River which marks the boundary between local people and the park, and thus might limit chimpanzee movement to and from the park.

Photograph by G Owoyesigire

Cropland adjacent to Kibale National Park

Positive attitudes and support for chimpanzee conservation was revealed amongst local people. The majority of respondents (57.4%) reported that they liked chimpanzees compared with 16% which reported they disliked them; 0.9% disliked them immensely while a considerable number (n=30) representing 28.3% did not know. The main reason given for positive attitudes was that chimpanzees resemble humans, while negative attitudes and perceptions were a result of sugarcane/crop destruction. Despite the importance of chimpanzees as a tourist attraction and the resulting tourism benefits believed to influence people's attitude, few respondents (12.3%) acknowledged the chimpanzee's role in tourism development and benefit sharing. It is therefore too early to conclude if the observed positive attitude and support will be maintained given the growing level of intolerance to wildlife in general due to crop raiding, lack of access to forest resources, low levels of awareness and limited conservation incentives.

Over 50% of local and district leaders as well as non governmental and community-based organisations were aware of the habituation activity taking place inside the park. Habituating chimpanzees for research and tourism purposes leads to the loss of fear of humans and can potentially lead to increased crop raiding or even attacks on people. This finding is important for establishing links and developing mitigation measures through awareness raising.

The results form a baseline for further rsearch and systematic monitoring of chimpanzee communities outside the park. Enhancing local people's livelihoods through income generating activities, access to markets, sanitation, habitat protection and restoration through incentive creation, and implementing interventions to minimise crop loss are essential for achieving habituation, tourism and long-term chimpanzee conservation objectives.

This project was funded by the Primate Society of Great Britain Conservation Working Party, British Airways, and Primate Conservation Inc

The value and significance of bushmeat to rural communities in the Lebialem Highlands of Cameroon

by Juliet Wright
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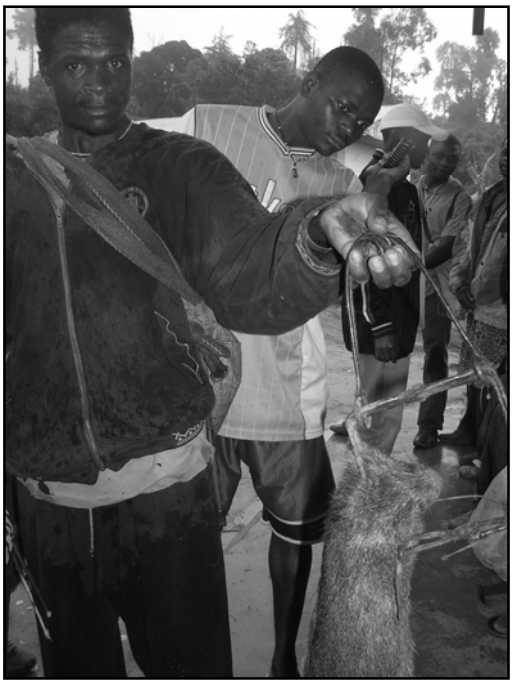
The bushmeat trade in western and central Africa has received substantial academic and media attention over the last decade. The vast scale of this commercial trade is having devastating consequences for an array of terrestrial vertebrates. Primate species are particularly susceptible to hunting pressures because they are medium- to large-bodied, long-lived and have slow reproductive rates. Although bushmeat harvesting is cause for conservation concern, attempts at controlling the trade using legislative measures have largely failed. Bushmeat utilisation is of nutritional and economic importance to rural communities with few viable alternatives, marginalising these people by outlawing their activities will never be conducive to effective conservation. Successful mitigation of this multifaceted problem can only be envisaged if the social dimension of the issue is appreciated and understood.

This research endeavoured to portray the harvesters' perspective on the bushmeat phenomenon by interviewing 90 hunters and trappers in the Lebialem Highlands of Cameroon. The aims were to identify the demographic characteristics of hunters and trappers, find out the species they hunted and their reasons, determine the relative importance of bushmeat in dietary and economic terms, and finally evaluate the impact of existing



Photograph by J Wright

Hunters displaying their catch

conservation measures on bushmeat harvests. The results indicate that harvesters in Lebialem are of an older generation than has been previously reported. This may indicate that hunting is becoming a less popular profession amongst younger men, possibly due to the level of effort now required to harvest from a depleting resource base. The economic importance of bushmeat has surpassed nutritional benefits in Lebialem. Communities that are reliant on bushmeat as a source of protein have limited access to external markets and are experiencing food security issues due to the rapidity of population growth.

Rather than being a primary occupation, hunting and trapping are usually supplementary income-generating activities. The monetary benefits of bushmeat are instant, and minimal investment is required to purchase the necessary equipment. In contrast, agricultural activities require

heavy financial investment and long delays before revenue can be obtained. Harvesting bushmeat is one of the few ways of obtaining cash quickly when it is urgently needed to pay medical and other unforeseen expenses. Enforcing legislation that prohibits the harvesting of bushmeat would deprive communities of this important 'safety-net' and jeopardise development prospects. In order to reach a compromise between biodiversity conservation and human development, bushmeat harvesting must become a self-regulating industry. Harvesters should be encouraged to concentrate their efforts in the more productive 'farm-bush' matrix rather than in the forest. Here they can harvest rodent species which are less susceptible to hunting pressures.

Harvesters in Lebialem are aware that the animals in their forests are reducing in numbers because they have become harder to catch. Now is a key time to utilise this perception to increase receptivity to alternatives. Developing flexible income generating activities that can be incorporated into existing livelihood strategies should be given a priority. Limited financial resources should now be channelled into piloting alternatives rather than further research. If harvesters can obtain sufficient monetary benefits from employment opportunities within their community, they appear willing to adapt their livelihood strategies. It is important that conservationists facilitate this before it is too late for dwindling wildlife populations to recover.

This project was funded by the Primate Society of Great Britain.

RAPID - Development of playback for rapid population assessment of the Critically Endangered brown-headed spider monkey (*Ateles fusciceps*) in Ecuador.

by Abigail Baird

The RAPID project aimed to develop an innovative sound-based playback method for rapid population assessment of the critically endangered brown-headed spider monkey (*Ateles fusciceps fusciceps*) in NW Ecuador. Once the methodology had been field tested it was passed onto a team of 'parabiologists' that have been trained through the PRIMENET project. The "parabiologists" are people from the local communities that live and work in close conjunction with the rainforests that were part of this study.

Setting up the playback equipment

Trekking through the forest

The playback method used responses to amplified recordings of the alarm call of *Ateles fusciceps* to provide information on presence/absence and abundance. The recordings were firstly tried and tested with a group of *Ateles fusciceps robustus* at Chessington Zoo. A field survey design, based on species-specific responses to playback was developed and analysed to determine population densities and current status of *Ateles fusciceps* in four sites within the buffer zone of the Cotacachi-Cayapas Ecological Reserve (CCER), The Los Cedros Biological Reserve (LCBR) and three unprotected, data deficient areas, Santa Rosa de Naranjal, Leon Febres Cordero and Tesoura Escondida, which are threatened by land-use change such as mining, logging and agriculture. Hunting of primates is also prevalent in some of these areas.

The project has confirmed that *Ateles fusciceps* is present within the southern buffer zone of the CCER. A total of 22 brown-headed spider monkeys were located and mapped through the playback methodology. If all sightings are included a total of 43 brown-headed spider monkeys were detected in this region. As far as conclusions can be drawn in such a short study concerning density of *Ateles fusciceps*, these data have produced density estimates for each site which can be used to compare with future studies and further aid knowledge of their wild status. The highest density estimate was in Tesoura Escondida, where density was estimated to be 7.49/km^2. The lowest density estimate was at Leon Febres Cordero, which was 0.57/km^2. Palm oil cultivations and hunting is prevalent at this site, which could explain the low density estimates. Comparisons of the density estimate of this study were also made with the 2006 density estimates of *Ateles fusciceps* in the LCBR (no density estimates exist for the other sites). The density estimate from this study of the LCBR was ????? which compares to Gavilanes (2006) estimate of 0.5-1.2/km^2.

All encounters with *Ateles fusciceps* were mapped and created using a Geographic Information System to provide up to data concerning *Ateles fusciceps* distribution. All data were also entered into an open-access Google Earth database, which is under development as part of the PRIMENET project, to raise public awareness with regard to the status of *Ateles fusciceps*.

Development of the playback methodology needs to continue as certain errors and difficulties were discovered during this study. The most important problem that needs to be overcome is the difficulty in hearing either the playback vocalisation or responses made by individuals, due to changes in vegetation structure and climatic conditions. Amplifying the

vocalisation further would possibly distort and confuse primates if it is much louder than their own capacity to produce an alarm call. I also recommend and conclude that the playback technique should not be used frequently in each site visited. The recorded vocalisation in this study was an alarm call and therefore using it frequently may cause stress to the responding individuals. Also by reducing the frequency that the system is used, it will provide some prevention of habituation and desensitisation to the playback. Using playback is certainly only to be used as a rapid population assessment.

This project was funded by the International Primate Society Conservation Committee, Association of British Wild Animal Keepers, and Primate Conservation Inc.

Staff Profile: Dr Giuseppe Donati

by Suzanne Turnock

Giuseppe Donati has an academic background in Biological Sciences (MSc). Throughout his career, Giuseppe's research has mainly focused on the influence of abiotic and biotic factors on the activity cycles of lemurs. His research began during his MSc at the University of Pisa in 1997. He wrote a thesis on the activity cycle, feeding and ranging behaviour of *Eulemur fulvus rufus* in the Kirindy Forest of western Madagascar. After a year of national service in Italy, Giuseppe began his PhD at Florence University researching the activity cycle and its ecological correlates in the collared lemur (*Eulemur collaris*).

Since completing his PhD, Giuseppe has been awarded a number of grants to continue his research. In 2003, Giuseppe began a long-term post-monitoring project on a relocated population of *Eulemur collaris* in a fragmented area of the endangered Malagasy littoral forest. The project aims to see how the lemur population copes with translocation and to see how lemurs help to regenerate the forest (Donati *et al.*, in press). Giuseppe continues to work in collaboration with Hamburg University, Pisa University and QIT Madagascar Minerals (Rio Tinto subsidiary) to monitor the translocated lemur population.

In 2004, Giuseppe, Dr Deborah Curtis, and Dr Michele Rasmussen organised an International Primatological Society symposium. Specialists came together to discuss the activity patterns of primates and other

mammals. The outcome of this symposium was a special issue of *Folia Primatologica* (Curtis *et al.*, 2006). Before coming to Oxford Brookes University Giuseppe has taken up teaching positions at Pisa University and as an instructor of primate behavioural ecology for summer field courses at La Suerte Biological Station, Costa Rica and at Ometepe Biological Station, Nicaragua.

Giuseppe is currently a post-doctoral researcher at Oxford Brookes University and is writing up his research from the lemur translocation project. He is working with Prof Simon Bearder and Dr Anna Nekaris to publish research comparing the ecology of different primate species. He also plans to start a new project into the behavioural ecology of the understudied bamboo lemur (*Hapalemur* spp.). Giuseppe contributes to the teaching of Primate Diversity, Biogeography and Status and Research Methods modules for our MSc in Primate Conservation.

Publications

Donati, G., Lunardini, A., Kappeler, P.M., and Borgognini Tarli, S.M. (2001). Nocturnal activity in the cathemeral Red-Fronted Lemur, *Eulemur fulvus rufus*, with observation during a lunar eclipse. *American Journal of Primatology*, 53: 69-78.

Curtis D., Donati G., Rasmussen M. (2006). Cathemerality. Folia Primatologica, 77 (1-2).

Donati, G. and Borgognini Tarli, S.M. (2006). The influence of abiotic factors on cathemerality: the case of *Eulemur fulvus collaris* in the littoral forest of Madagascar. *Folia Primatologica*, 77 (1-2): 104-122.

Bollen, A., and Donati, G. (2006). Conservation status of the littoral forest of south-eastern Madagascar: a review. *Oryx*, 40 (1): 57-66.

Donati, G., Bollen, A., Borgognini Tarli, S.M., and Ganzhorn, J.U. (2007). Feeding over the 24-hour cycle: dietary flexibility of cathemeral collared lemurs (*Eulemur collaris*). *Behavioural Ecology & Sociobiology*, 61 (8): 1237-1251.

Donati, G., Ramanamanjato, J.B., Ravoahangy, A.M., and Vincelette, M. (in press). Translocation as a conservation measure for a threatened species: the case of *Eulemur collaris* in the Mandena littoral forest, south-eastern Madagascar. In: Ganzhorn, J.U., Goodman, S.M., and Vincelette, M. (eds.) *Biodiversity, Ecology and Conservation of the Littoral Ecosystems of South-eastern Madagascar*. Smithsonian Institution Press.

Staff Profile: Dr Amanda Webber

by Suzanne Turnock

Amanda came to Primate Conservation via a more convoluted route than most! After completing her BA (hons) in English and Theatre at the University of Warwick in 1995, she spent a year working in West Africa. This sparked an interest in anthropology which lead to behavioural fieldwork with mantled howler monkeys (*Alouatta palliata)* in Costa Rica and a range of ecological studies in The Gambia. She completed the MSc in Primate Conservation at Oxford Brookes University in 2001, the first year of the course.

In 2003, Amanda began her PhD research under Dr Kate Hill examining primate crop raiding around Budongo Forest Reserve in North West Uganda (also with Oxford Brookes University). Amanda's research was interdisciplinary and included farm monitoring, GIS mapping and semi-structured interviews to compare the actual risk of crop damage with the perceived risk by local people. Her research and conservation focus is human wildlife conflict, particularly primate crop raiding. However, Amanda is also interested in perceptions of other wildlife e.g. carnivores, ungulates and domestic animals. In addition, she enjoys working with local people to ascertain the human perspective of conflict and develop possible solutions to minimise the impact of this conservation problem.

Amanda is currently teaching the Human Wildlife Conflict Issues module for our MSc in Primate Conservation. She is also teaches undergraduate modules at the University of Bristol (Introduction to Primatology and Anthropology and Conservation). Her advice to current students would be to read widely (including sources outside the traditional primate literature) and enjoy the opportunity to share experiences and learn from each other!

Publications/ Media

Webber, A.D.; Hill, C.M. & Reynolds, V. (2007). Assessing the Failure of a Community-Based Human-Wildlife Conflict Mitigation Project in Budongo Forest Reserve, Uganda. *Oryx* 41(2), pp177-184

Webber, A.D. "How People's Perceptions of Primates Can Help Us Design More Effective Conflict Mitigation Strategies: crop raiding in Uganda" Presentation at the International Primatological Society Congress, Entebbe, Uganda, June 2006

Interviewed for BBC Radio 4's 'Nature' programme in UK (19 September 2005). The programme examined issues of human-wildlife conflict with regard to primates and was scheduled to run alongside the UNEP GRASP (Great Apes Survival Project) conference.

Webber, A (2002) Are Wildlife Programmes Broadcast on Television Effective at Producing Conservation? National Wildlife Federation, US (for Filmmakers for Conservation)

MSc Seminar Series: October to December 2007

Monday 1 October – MSc Final Projects students
Speakers: a) Felicia Rupert and b) Innocent Mulenga, Oxford Brookes University
Titles: *a) The Sahamalaza sportive lemur (*Lepilemur sahamalazensis*) at the Ankarafa research site, NW Madagascar. b) Identifying chimpanzee subspecies at the Chimfunshi Orphanage, Zambia byDNA analysis*

Monday 8 October
Speaker: Dr Susan Cheyne, University of Oxford
Title: *Long term primate and biodiversity research in Indonesia*

Monday 15 October
Speaker: Ashley Leiman, Orangutan Foundation
Title: *The future of orangutans*

Monday 22 October
Speaker: Professor Katherine Homewood, University College London
Title: *Community conservation in Masaiiland*

Monday 29 October
Speaker: Dr Mika Peck, University of Sussex
Title: *Things that go bump in the night: the reality of primate conservation at the grassroots level – a case study of the PRIMENET project in NW Ecuador*

Monday 5 November
Speaker: Dr David Chivers, Cambridge University
Title: *The role of frugivores in forest regeneration in Central Borneo*

Monday 12 November
Speaker: Lilia Bernede, PhD student, School of Social Sciences and Law
Title: *The red slender loris: a field study in Sri Lanka*

Monday 19 November
Speaker: Dr Sabrina Locatelli
Title: *Prevalence and genetic diversity of SIV infection in wild red colobus monkeys from Cote d'Ivore: implications for transmission to humans*

Thursday 29 November
Speaker: Dr Christoph Schwitzer, Bristol Zoo
Title: *Programme Sahamalaza: Study of the conservation of Critically Endangered lemurs in NW Madagascar*

Wednesday 5 December
Speaker: Alan Knight OBE
Title: *International Animal Rescue*

Snippets from the Seminars

Thank you to all our visiting speakers for their informative and inspiring talks.

Dr David Chivers, head of the Wildlife Research Group at Cambridge University and scientific director of Project Barito Ulu, visited to speak with students about feeding behaviour and cases of hybridization occurring between *Hylobates agilis* and *H. muelleri* gibbons in Kalimantan, Borneo. He is a charasmatic speaker able to keep everyone engaged and inspired. He reminds consumers to buy responsibly and encourages primate conservationists to consider entering politics, as legislative protection is what endangered primates seem to need most. Everyone here at Oxford Brookes was honoured to have Dr. Chivers share both his stories and his knowledge.

Down the pub with Dr Chivers

Dr Christoph Schwitzer, a research officer at Bristol Zoo, gave a fascinating presentation to students about his work with lemurs in the Sahamalaza region of northwest Madagascar in association with *The Association Européenne pour l'Etude et la Conservation des Lémuriens (AEECL)*. The talk focused on current and past research concerning the conservation of the Critically Endangered blue-eyed black lemurs (*Eulemur macaco flavifrons*) and the Sahamalaza sportive lemur (*Lepilemur sahamalazensis*), the latter of which was recently named one of the 25 most endangered primates by the IUCN.

Dr Sabrina Locatelli, a former Brookes Primate Conservation MSc student (2000-01), led a captivating talk about her research on anthropozoonotic and zoonotic diseases. The main topic of her talk was the transmission of HIV and SIV between humans and non-human primates. After years of research she has come to the conclusion that "an understanding of our world can be greatly increased with patience."

Dr Locatelli signing the visitors' book

Alan Knight OBE, chief executive of International Animal Rescue (IAR), led the final talk in our special speaker series. IAR is dedicated to the rescue and rehabilitation of suffering animals in the developing world, focussing primarily on Asia. Animal welfare, veterinary procedures, creation of sanctuaries, and reintroduction of animals back to the wild were all topics covered throughout the lecture.

Alan Knight discussing the work of IAR

The talk covered the plight of many species other than primates, helping us to gain a broader perspective on conservation tactics applied to animals as a whole. With so much work needed to improve the welfare of animals, it is encouraging to know that this year's MSc cohort are making valuable contributions to enhancing primate wellbeing.

If you would like to share your research with us and are interested in becoming a guest speaker please feel free to contact Prof. Simon Bearder at:

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Nocturnal Primate Research Group

Upcoming Events

Monday 28 January 6-7pm
Dr Guy Cowlishaw,
Understanding extinction processes in primates

Monday 4 February 6-7 pm
Dr Colin Tudge, author: 'Secret Life of Trees', 'People are Easy to Feed'
If we really want to preserve wild creatures, how deeply do we need to dig?

Monday 11February 6-7 pm
Prof. Jeremy MacClancy, Oxford Brookes University
Why primatologists also need to be social anthropologists

Monday 18 February 6-7 pm
Prof. Robin Dunbar, Director of Institute of Cognitive and Evolutionary Anthropology, University of Oxford

Monday 25 February 6-7 pm
Dr Mark Bowler

Monday 3 March 6-7 pm
Ian Redmond
Primates and climate change

Monday 31 March 6-7 pm
Jamie Copsey, Durrell, Jersey
Fire, fields and fibata: A case study of wetland burning within a community based conservation zone, Madagascar

Monday 7April 6-7 pm
Alison Jolly, Honorary Research Fellow, Oxford Brookes & University of Sussex
Conservation education and children in Madagascar

Photograph by Michelle Jachimowicz

Come visit us on the web!

http://ssl.brookes.ac.uk/primates/home.htm