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Canopy

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MSc in Primate Conservation Newsletter

Letter from the Editors…

Welcome to the spring edition of *Canopy*, the Primate Conservation MSc at Oxford Brookes University's in-house journal. We hope that this issue highlights the diversity of issues tackled by the MSc and illustrates how the present students have been inspired to take what we have learned in the classroom and apply it to our final research projects out in the field and in the captive setting. We have no doubt the MSc will continue to inspire its students in future years thanks to the enthusiasm and experience of our lecturers and tutors we have all been lucky enough to benefit from.

The interdisciplinary approach of the MSc, tackling issues from human-wildlife conflict to population genetics, combined with evening seminars from guest speakers has introduced many of us to new topics and allowed us to develop our own areas of interest. Through the knowledge acquired from this unique degree we can really begin to tackle the vast problem before us of conserving primates and the habitats in which they live. We would finally like to thank all the lecturers who have invested their time in this course and given us an education we can truly be proud of and we have no doubt they will inspire many more after us.

Best wishes,

Brooke Aldrich, Jessica Ashton,
Fiona Bryce, Heidi Douglas
and Allyson MacDonald.

Cover Image
Fiona Bryce

In this Issue…

Letter from the course tutor
Dr Anna Nekaris, Senior Lecturer in Biological Anthropology

Now in its sixth year running, the MSc in Primate Conservation at Oxford Brookes moves from strength to strength. The enthusiasm and hard work of our students is well-displayed in this issue of *Canopy*. Moving to a new town, University, or even country can be daunting. But on top of this, to complete six postgraduate modules and independently design a research project is an achievement indeed. The course committee congratulates students on their efforts and wishes them the best of luck in their summer research.

This year's MSc was a bit different from the rest. Dr Nancy Priston stepped into the shoes of Dr Kate Hill to deliver an excellent module on Human Wildlife Conflict issues and to supervise a number of our students. Accolades go to Kate, who procured a number of research grants for her work on farmer wildlife conflict in Uganda. We welcomed Dr Mika Peck to the course this year to tackle the difficult task of teaching Primate Conservation Genetics. Mika's Darwin Initiative-funded project on spider monkeys in Ecuador has served as an excellent vehicle for student projects. Dr Ken Gold replaced Dr Mark Prescott, who stepped down from his position as Captive Care module leader after three excellent years. Ken's accomplishments are described below.

A number of current and former MSc students also deserve special mention. This year's habitat country scholarship was awarded to Karenina Morales from El Salvador. A similar scholarship was generated by Monkey World to support the studies of Yu-Ju Lin from Taiwan. These dynamic women have added a new component to our course. Research funding for their MSc projects was procured by Georgina Ash, Petra Osterberg, Cara Buckley (2004) has had her dissertation project on Indonesian gibbons accepted for publication in *Primates*, the first project to go through the entire review process in an international peer-reviewed journal. Angela Maldonado (2004), Matt McClennan (2003) and Graham Wallace (2005) all received PhD studentships to continue their postgraduate work in the Oxford Brookes PhD programme.

Staff members were busy this year too and published the following publications in 2005/06, showing that on top of being a world-class education institute, Oxford Brookes also supports a thriving research environment.

Bearder

- Bearder SK, Nekaris KAI & Curtis D (2006). A re-evaluation of the role of vision for the activity rhythms of nocturnal primates, *Folia Primatologica*. 77(1-2):50-71.
- Nekaris KAI and Bearder SK. (2006). The strepsirrhine primates of Asia and Mainland Africa: diversity shrouded in darkness. In *Primates in Perspective* (eds. SK Bearder, C. Cawdell, A Fuentes, K MacKinnon, M Panger). Oxford University Press, pp. 24-45.
- Pimley ER, Bearder SK, Dixson AF (2005). Social organisation of Milne-Edward's potto. *American Journal of Primatology.* 66(4): 317-330.
- Pimley ER, Bearder SK, Dixson AF (2005). Home range analysis of *Peroditicus potto edwardsi* and *Sciurocheirus cameronensis*. *International Journal of Primatology*. 26(1): 191-206.

Curtis

- Curtis DJ ; Donati G/ Rasmussen MA (2006) Cathemerality: preface. *Folia Primatologica*. 77(1-2): 5-6
- Curtis DJ ; Rasmussen MA (2006) The evolution of cathemerality in primates and other mammals: a comparative and chronoecological approach. *Folia Primatologica*.77(1-2):178-193

Hill

- Hill CM (2005). People, crops and primates: a conflict of interests. *Commensalism and Conflict*: *the human primate interface*.. Paterson JD Wallis J, Editors. Norman, OK: American Society of Primatologists. 2005. Pgs: 40-59

- Tweheyo M ; Hill CM ; Obua J (2005). Patterns of crop raiding by primates around the Budongo Forest Reserve, Uganda. *Wildlife Biology*. 11(3):237-247.

Nekaris

- Nekaris, KAI (2006). The social lives of Mysore slender lorises. *American Journal of Primatology***.** In press

- Nekaris KAI, Pimley ER and Ablard K. (2006). Anti-predator behaviour of lorises and pottos. In (Gursky SG and Nekaris KAI, eds). *Primates and Their Predators*. Kluwer Academic Press.

- Nekaris KAI & Stephens NJ (2006). All lorises are not slow: rapid arboreal locomotion in the newly recognised red slender loris (*Loris tardigradus tardigradus*) of southwestern Sri Lanka. *American Journal of Primatology.* In press

- Buckley C, Nekaris KAI & Husson S. (In press) Survey of Hylobates albibarbis in peat swamp, Central Kalimantan, Borneo*. Primates*.

- Nekaris KAI. (2005). Foraging behaviour of the slender loris: implications for theories of primate origins. *Journal of Human Evolution***.** 49:289-300.

- Nekaris KAI, Liyanage WKDD & Gamage S (2005). Relationship Between Forest Structure and Floristic Composition and Population Density of the Southwestern Ceylon Slender Loris (*Loris tardigradus tardigradus*) in Masmullah Forest, Sri Lanka. *Mammalia.* 69(2):1-10.

Priston

- Lee PC and Priston NEC (2005). Human attitudes to primates: Perception of pests, conflict and consequences for conservation. *Commensalism and Conflict*: *the human primate interface*. Paterson JD Wallis J, Editors. Norman, OK: American Society of Primatologists. 2005. Pgs: 1-23

Student Presentations:

- Ablard K (2005) Orang-utans' manufacturing and use of tools with long-term enrichment and short-term enrichment at the Los Angeles Zoo. *Primate Eye* (86): 25.

- Donaldson A ; Hevesi R (2005) The social rehabilitation of monkeys from the UK primate pet trade. *Primate Eye*. 2005. (86): 13

- Downs S (2005) Study on natural behaviours of captive *Varecia variegata* in two semi-free-ranging enclosures in the UK. *Primate Eye* (87): 31.

- Marchal V (2006) Primate crop-raiding: a study of local perceptions in four villages in North Sumatra, Indonesia. *Primate Eye* (88): 23-24

- Miehs A & Nekaris KAI (2005). A comparison of the captive behaviour and exhibit use of the Bengal slow loris (Nycticebus bengalensis) and pygmy loris (*Nycticebus pygmaeus*) at London Zoo. Proceedings from the Australasian Primate Society 23rd Annual Conference. South Australian Museum, Adelaide.

- Morales-Jimenez AL, Nekaris KAI, Lee J, Thompson S.(2005) Modeling distributions for Colombian spider monkeys (*Ateles* ssp.) to find priorities for conservation. *American Journal of Primatology.* 66(1):131.

- Wallace G (2006) Identification, abundance, and behavior of galagos in Mulanje and Thyolo districts, Malawi. *Primate Eye*. (88): 22

Welcome Dr. Ken Gold!

The 2006 cohort welcomes Dr Ken Gold as the incoming lecturer for Captive Management and Rehabilitation Module in Semester Two.

Ken graduated in zoology from the University of California before obtaining a Masters in Ecological and Systematic Biology with a thesis on captive-gorilla rearing.

He continued studying infant gorilla development with an extensive study of 20 gorillas in zoos throughout North America, which led to changes in rearing styles and modifications to reintroduction methods.

Ken did his PhD on gorilla personality, working with Dr Terry Maple in Atlanta. He then worked at Lincoln Park Zoo in Chicago in charge of the Lowland Gorilla Programme, and subsequently as Director of Informal Education. In the late 1990s Ken moved to the Netherlands as the General Curator at Apenheul Primate Park, before taking a position with the American Humane Association to advise on the use of animals in the film and television industry. Last year Ken was working as General Curator at the Singapore Zoo and Night Safari, which house over 45 species of primates.

Ken arrived at Oxford Brookes University in January. During the semester, topics covered in the Captive Management and Rehabilitation Module include the ethics of keeping primates in captivity, the physical and psychological needs of captive primates, such as enclosure design and enrichment, management issues, such as breeding and transfer policies and an assessment of rehabilitation and reintroduction projects.

MSc Primate Conservation Seminar Series
Semester Two, 2006

School of Social Science and Law, Department of Anthropology

Week 1
Monday 30 January 6-7pm
Lucy Molleson, Ikamaperu Woolly Monkey Project, Peru
Primate Conservation in the Peruvian Amazon

Week 2
Monday 6 February 5-6 pm (note time change)
Dr. Allison Jolly, Sussex University and Honorary Research Associate, Oxford Brookes University
Conservation in Madagascar

Week 3
Monday 13 February 6-7 pm
Ally Crichton, Tusk Trust and **Education Officer,** Chimfunshi Wildlife Orphanage, Zambia
Conservation projects in Africa and conservation education at Chimfunshi

Week 4
Monday 20 February 6-7 pm (in DEM 06 – note venue change)
Dr. Nick Isaac, Research Fellow, Institute of Zoology, Zoological Society of London
Primates as a model for understanding extinction

Week 5
Monday 27 February 6-7 pm
Dr. Paul Honess, Research Officer**,** Veterinary Services, University of Oxford.
The welfare of captive primates

Week 6
Monday 6 March 6-7 pm
Dr Doug Brandon-Jones, Natural History Museum, London
A taxonomic review of Indian Langurs

Week 7
Monday 13 March 6-7 pm
Dr. Kate Hill, Anthropology Department, Oxford Brookes University
Comparison of crop-raiding by primates in Uganda and Nigeria

Week 8
Monday 20 March 6-7 pm
Angela Maldonado, Anthropology Department, Oxford Brookes University
Final Project: Preparing, conducting and completing field research in a tropical forest.

Week 9
Monday 27 March 6-7 pm
Nick Garbutt, Wildlife photographer, author, tour leader and artist, Indri mages, Penrith
Wildlife diversity in Madagascar

Week 10
Monday 3 April 6-7 pm (in DEM 06 – note change of venue)
Dr Erik Sieffert, Department of Earth Sciences and University Museum, University of Oxford
Primate responses to environmental change – fossil evidence

Many thanks to all our guest lecturers over the academic year. The student cohort and other interested listeners have had the opportunity to hear about a diverse range of primate-related subjects from renowned experts and specialists. We have been privileged to welcome our guests to Oxford Brookes, and thank all our seminar speakers for their time, enthusiasm and expertise. The staff at the post-seminar 'Angel and Greyhound' pub also thank the participants and attendees for their beer money!

MSc Project Sites 2006

Allisha Ali
Students' knowledge and attitudes toward primates

Fiona Bryce
Spider monkey locomotion in captivity and the wild

Rosalyn Ridlington
Preliminary census of four primate species and habitat assessment

Nina Porter
Use of a DVD filmed in Cusuco National Park as a conservation tool

Jessica Ashton
The effects of mixed-species exhibits on New World primates

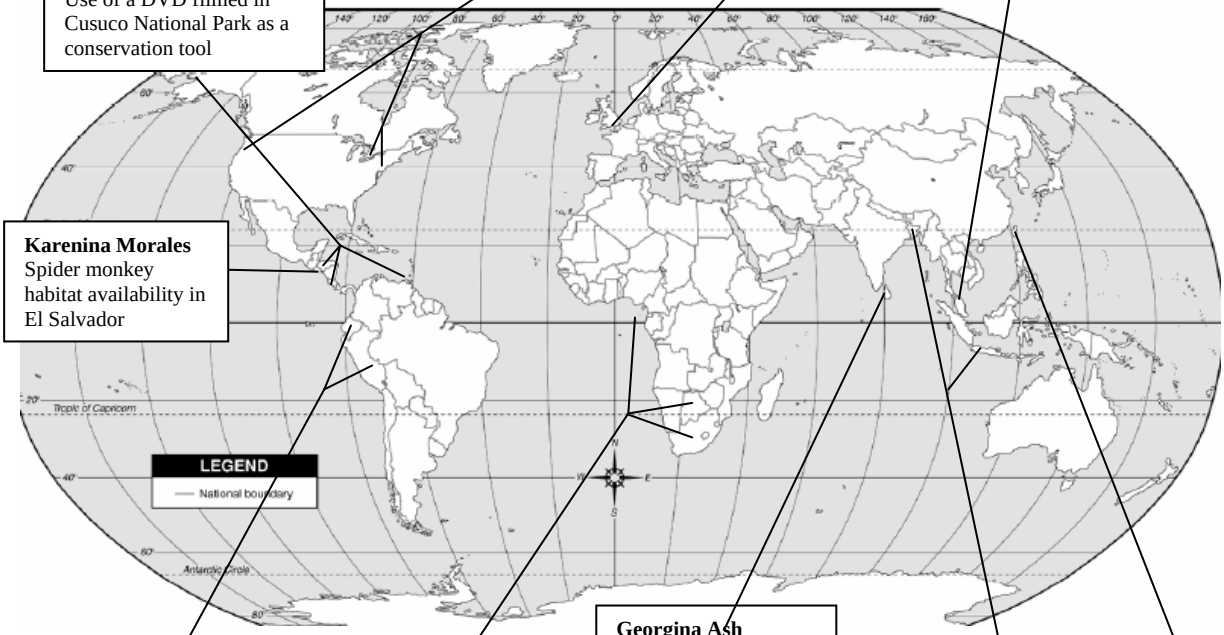
Leslie Bratton
African immigrants' preferences towards bushmeat (in the UK, USA, & Canada)

Johan Karlsson
Description and scientific naming of unrecognised galagos

Allyson MacDonald
Comparing behaviour in groupings of captive female chimps

Cassandra Gamble
Effects of predator/prey rotation exhibits on gibbon behaviour

Karen Sullivan
Guide to the Dusky Langur project



Karenina Morales
Spider monkey habitat availability in El Salvador

Vicki Hughes
Training parabiologists to survey primates

Fionn Magnusson
Status of the brown-headed spider monkey

Noga Shanee
Reforestation project for habitat upgrading

Sam Shanee
Feasibility study of population reinforcement programme: spider monkeys

Brooke Aldrich
Multi-method survey of the Andean titi monkey

Emma Catlow & Nicky Gordon
Survey of mona monkeys on Sao Tome

Marlies Heesen
Food availability and foraging behaviour in chacma baboons

Nicola Harrison & Robert Pearce
House-raiding baboons in the Western Cape, SA (animal & human components)

Georgina Ash
Primate eco-tourism in Sri Lanka - potential conservation tool

Alex Boulton
Local perceptions of Sri Lanka's wet zone primates

Pamela Heidi Douglas
Primate surveys & habitat assessment of Sri Lanka's fragmented rainforests

Lorienne Parker
Conservation and status of the western purple-face leaf monkey

Petra Osterberg
Vegetation requirements and effects of forest fragmentation on the hoolock gibbon

Sarah Jaffe
Rescue centre for slow lorises in Java

Yu-Ju Lin
Human conflict with Formosan macaques

A complete listing of student projects for 2006

NAME	*PROJECT TITLE*	*LOCATION*
Brooke Aldrich *spidersflies@yahoo.com*	Multi-method survey of the Andean titi monkey (*Callicebus oenathe*) based on duet vocalisations.	Peru
Allisha Ali *Allisha.ali@gmail.com*	Assessing secondary school students' knowledge and attitudes toward non-human primates in Trinidad, West Indies.	Trinidad, West Indies
Georgina Ash	Eco-tourism in Sri Lanka as a potential conservation tool: Is it effective for native primates?	Sri Lanka
Jessica Ashton *Jessicaashton290@yahoo.co.uk*	The effects of mixed-species exhibits on New World primates.	Europe
Alex Boulton *alexpboulton@yahoo.co.uk*	Local perceptions of Sri Lanka's wet zone primates: Implications for in-situ conservation education.	Sri Lanka
Leslie Bratton *lesliebratton@googlemail.com*	African immigrants' preferences towards bushmeat.	UK, Canada, USA
Fiona Bryce *ateles_geof@yahoo.com*	A comparison of spider monkey locomotion in captivity and the wild and a comparison of the microhabitat preferences.	Costa Rica and UK
Emma Catlow	A survey of mona monkeys on Sao Tome.	West Africa
Pamela Heidi Douglas *highland_chimp@yahoo.ca*	Status survey of large arboreal mammals (*Trachypithecus vetulus vetulus*, *Macaca sinica aurifrons* and *Rafuta macroura malanochra*) in ten fragmented lowland rainforest patches in Galle District, Sri Lanka.	Sri Lanka
Cassandra Gamble *cassandragamble@gmail.com*	The effects of predator/prey rotation exhibits on gibbon behaviour.	USA
Nicky Gordon	Placing a sanctuary for mona monkeys on Sao Tome.	Sao Tome, West Africa
Nicola Harrison *harrisonicola@hotmail.com*	House-raiding baboons in the Western Cape.	South Africa
Marlies Heesen *heesebeest@hotmail.com*	Seasonal changes in food availability and the impact on foraging behaviour in chacma baboons in the Okavango Delta.	Botswana
Vicki Hughes *Vhugh31@hotmail.com*	Training parabiologists to survey primates.	Ecuador
Sarah Jaffe *05079418@brookes.ac.uk*	Starting a rescue centre for slow lorises in Java.	Indonesia

NAME	***PROJECT TITLE***	***LOCATION***
Johan Karlsson	Description and scientific naming of unrecognised galagos.	UK
Yu-Ju Lin	Human conflict with Formosan macaques (*Macaca cyclopis*): A case study of residents' knowledge of wild macaques in Mountain Longevity, Kaohsiung City.	Taiwan
Allyson MacDonald *Allyson_MacDonald@yahoo.com*	Comparing behaviour of an all-female group of captive chimps with mixed-sex groups.	UK
Fionn Magnusson	Status of the Brown-headed spider monkey (*Ateles geoffroyi fusciceps*) in the Andean cloud forest of the Los Cedros Biological Reserve.	Ecuador
Karenina Morales *kareninamorales@yahoo.com*	Habitat availability for spider monkeys in El Salvador.	El Salvador
Petra Osterberg *posterbe@hotmail.com*	Vegetation requirements and the effects of forest fragmentation on the hoolock gibbon in Bangladesh.	Bangladesh
Lorienne Parker	Conservation and status of the western purple-face monkey (*Trachypithecus vetulus*) in Sri Lanka.	Sri Lanka
Robert Pearce *r1pearce@hotmail.com*	House-raiding baboons in the Western Cape.	South Africa
Nina Porter *la_gata_perezosa@yahoo.com*	Use of a DVD filmed in Cusuco National Park as a conservation tool for the area.	Honduras
Rosalyn Ridlington *rosalynclaire@yahoo.ca*	Preliminary census of four primate species and habitat assessment in Rio Cana Blanca.	Costa Rica
Noga Shanee	Reforestation project for habitat upgrading for the brown headed spider monkey.	Ecuador
Sam Shanee	Feasibility study of population reinforcement programme for the brown headed spider monkey (*Ateles fusciceps fusciceps*).	Ecuador
Karen Sullivan *pinkprime8@yahoo.com*	Guide to the dusky langur.	Thailand

Student Projects 2006

New Rescue and Rehabilitation Centre for Slow Lorises

by Sarah Jaffe

Confiscated slow lorises (*Nycticebus sp*.) present a problem for wildlife rescue centres in Southeast Asia as they often do not have the time, money or supplies to deal with an increasing number of animals.

Slow lorises are the number one primate involved in the wildlife trade of Indonesia, due to their financial value as pets and for the medicinal trade.

The increase in captive slow lorises and their diminishing populations in the wild is driving plans for a rescue and rehabilitation centre,
specifically designed for the needs of these vulnerable primates.

Photo:www.loris-conservation.org/database

Two pieces of land will be surveyed for habitat suitability for the new rescue centre. At the same time, current questions of slow lorises' behaviours and taxonomies will be studied, along with further investigation of the wildlife trade. Accompanied with this project will be employment opportunities for local people, and education and outreach programmes for the public. The centre is expected to be up and running by the end of 2006.

I am working in coordination with Dr. Anna Nekaris (Oxford Brookes University), Femke den Haas and Karmele Llano (both from ProFauna Indonesia) to initiate this *in situ* rescue centre. I am also keen to hear from anyone offering information or other support.

Surveying titi monkeys in Peru based on duet vocalisations

by Brooke Aldrich

The Andean titi monkey (*Callicebus oenanthe)* is currently classified as Vulnerable, but the results of further surveys may upgrade its status to Endangered or even Critically Endangered (IUCN, 2004). I hope that my research will lead to a better understanding of the conservation status of this species.

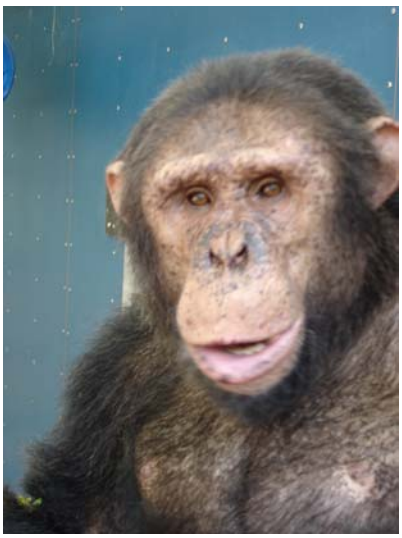
I will base my project at Tarangue - a private, protected fragment of pre-montane cloud forest located near Moyobamba, in the Department of San Martín in northern Peru. Tarangue is the property of 'Ikamaperou' and a refuge for primate victims of the illegal animal trade.

I will be using vocalisations to estimate the number of groups in the area, by triangulating the locations of duetting pairs of titi monkeys. This method has been successfully used by several researchers, including former MSc student Cara Buckley, to survey gibbon populations.

I will also be exploring the idea that each monkey or pair of monkeys will possess its own unique 'vocal signature'. If this is correct, then this information could be used to accurately census populations of visually elusive yet highly vocal species like titi monkeys.

No Sex in the City

by Ally MacDonald



Do the bachelorettes at Dudley Zoo need a handsome boy like Donkey?
Photo: Esther Hull

They are a group of females in the prime of their life, but there are no sexual shenanigans among the Dudley Zoo chimpanzees (*Pan troglodytes*). The seven females form the only chimp group in the UK without any males, since their patriarch Pepé died of natural causes last year.

While bachelor groups of male chimpanzees are not an uncommon sight in captivity, all-female groups are unusual and have not been studied before. In the wild, females rarely bond together in groups dominated by a male hierarchy, but captivity provides alternative social arrangements.

It is interesting to find out whether this sex-ratio has an impact on the behaviour of the group, and whether activity levels, aggression and social interaction are affected. It might be expected that life for the females without any boys is less stressful, but maybe a bit dull!

I will be making behavioural observations of the female group at Dudley Zoo, and comparing the group to chimpanzees in mixed-groups at Twycross Zoo and Whipsnade Wild Animal Park. It could be useful for captive management planning to see how different sex-ratio groups interact, and whether the all-female living situation provides another suitable housing option.

House-raiding baboons in South Africa

by Nicola Harrison

Baboons are known as pests in South Africa. There are often hostile encounters between them and humans, which can undermine local support for their conservation. Chacma baboons (*Papio ursinus ursinus)* around the Kogelberg Biospehere Nature Reserve in the Western Cape have been raiding houses to exploit human food resources.

The extent of the problem has not been scientifically assessed, so word of mouth may not represent the truth of the situation. It is therefore important to look at what the animals are actually doing, to study their raiding behaviours, what damage they cause, the frequency of the raids, types of food the baboons are eating and which animals are causing the most problems to identify the age and sex of likely offenders.

The baboons' home range will also be investigated to show where the animals are causing the most trouble, and what human actions make house-raiding more likely to occur. A pattern of behaviour can then be established, which will provide a scientific overview of raiding for the first time.

The information can be used by the Kogelberg Biosphere Nature Reserve Primate Programme to help develop a management plan for the baboons' conservation, in the hope of alleviating the human-wildlife conflict. Benefits to baboon populations would then accompany benefits to local people.

Habitat requirements and the effects of forest fragmentation on the western hoolock gibbon (*Hoolock hoolock)* in Bangladesh

by Petra Österberg

The hoolock gibbon is the only ape found on the Indian subcontinent and the split from the rest of the gibbon family is thought to be as old as that between *Homo* and *Pan.* There is a western and eastern sub-species of this gibbon, but few long-term studies have been conducted on either of them.

The population numbers have reportedly declined drastically during the past 20 years and recent estimates leave the western hoolock with a population of between 1000 and 3000 individuals. 80 % of these live in small isolated populations in forest fragments. IUCN has the hoolock gibbon listed as Endangered (EN, A1cd).

I will study a population of hoolocks in the north-east of Bangladesh during three mid-monsoon months. The gibbon here is sympatric with several other primates, but forest fragmentation affects the species differently. The gibbon is particularly sensitive as it is mainly frugivorous and completely arboreal and thus restricted in its dispersal to within fragmented areas.

A country with 140 million people, Bangladesh is the most densely inhabited country on earth. It is vital for the setting of future conservation priorities that the habitat variables affecting primate populations are more clearly understood.

Assessing Secondary School Students' Knowledge and Attitudes Toward Non-human Primates in Trinidad, W.I.

by Allisha M. Ali

The two monkey species found on the Caribbean island of Trinidad are the white-fronted capuchin (*Cebus albifrons trinitatis*) and the red howler monkey (*Alouatta seniculus insulanus*). Unfortunately, both are highly threatened and listed by the IUCN as being critically endangered and vulnerable, respectively. Only a few census studies have been carried out to date and have revealed a substantial decline in the numbers of both species. This has primarily resulted from illegal human activity including intense hunting and poaching, as well as habitat depletion through illegal logging, squatting and the commonly practiced slash and burn agriculture.

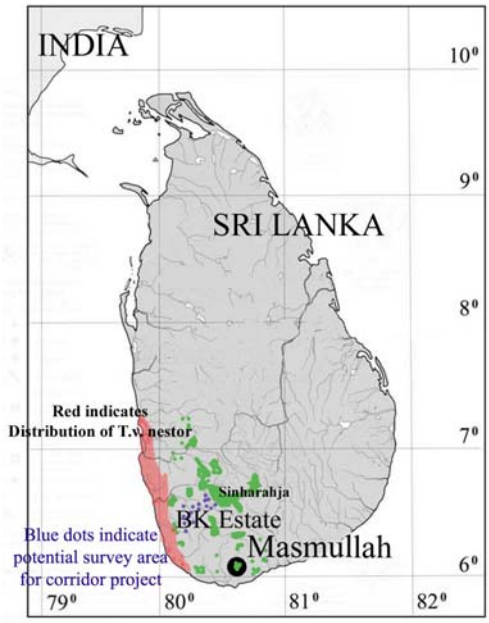
My project will be focused on determining awareness and perceptions on these monkey species among Trinidadian secondary school students. Today's youth represent future environmental stewards. They will be responsible for ensuring the sustainable use of our remaining natural resources and the protection of a vast array of faunal and floral life. Environmental educators develop programs aimed at engendering more favourable environmental attitudes to promote positive environmental behaviour among youth. In order to do so, it is crucial that the awareness and views of this group are first researched and understood. This research may also help in identifying these monkeys as possible flagship animals enabling them to serve as valuable conservation tools for generating interest, concern and support for habitat conservation on local, national and international platforms.

Fieldwork in Sri Lanka

Georgina Ash, Alex Boulton,
Pamela Heidi Douglas, Lorienne Parker

In May 2006, the four of us will travel to Sri Lanka for three months to conduct our final projects. With help from a People's Trust for Endangered Species grant to our supervisor Dr Anna Nekaris, we will be conducting a number of projects involving ecotourism, environmental education, and the censusing of primate populations.

Sri Lanka has been classified as a Biodiversity Hotspot and one of the world's eight hottest hotspots. The Wet Zone contains a large proportion of the island's endemic flora and fauna, yet this area contains only 5% of Sri Lanka's protected areas. Furthermore, very few studies from this highly threatened region have been published in major international journals on conservation biology and ecology. The protection of forests in this area is therefore essential for the conservation of biodiversity and wildlife in Sri Lanka.



Map of study site.

Our research will be a continuation of pioneering work commenced in 2001 by Nekaris, who has played an instrumental role in aiding us with the initial coordination of our projects. Below, we have provided brief summaries of our independent projects, outlining our goals and objectives.

Georgina Ash
Eco-tourism in Sri Lanka – Visitor perceptions of the endemic primates.

As a local flagship species, the elephant attracts many visitors to the protected areas of Sri Lanka. I will be looking into ecotourism, where the potential outcome is to assess if local eco-tour operators could raise awareness and appreciation of other endemic species, such as Sri Lanka's five endangered primates, in order to promote their much-needed conservation. The study will take in five popular wildlife and tourist sites located across the country. I will look at how local and foreign tourists perceive primates, and how ecotourism can potentially accommodate their attitudes. The data will be collected by structured surveys, which will be coded and analysed using SPSS, and discussion will be based on in-depth interviews with local tour operators, as well as evaluation of interpretive material on the eco-tours.

Alex Boulton
Local perceptions of a rain forest restoration project and Sri Lanka's Wet Zone primates: Implications for conservation.

I will assess local attitudes towards a rain forest restoration programme and Sri Lanka's Wet Zone primates in rural communities that form a corridor between Bangamukande Estate and Sinharaja World Heritage Site in southwestern Sri Lanka. Specifically, these attitudes will be assessed in regards to demographic and socio-economic variables to investigate their influence, if any, on local interest in wildlife conservation. In addition, an activity-based education pack will be distributed to school teachers and group leaders in each community and a number of conservation education sessions will be held in-situ for adults and children. I will be working in

collaboration with the Land Owners Restore Rainforests in Sri Lanka (LORRIS); a local NGO established by local farmers and landowners who have pledged portions of their land to a reforestation and corridor project connecting the two largest remaining rainforest patches in Sri Lanka.

Pamela Heidi Douglas
Status survey of large arboreal mammals (*Trachypithecus vetulus vetulus, Macaca sinica aurifrons, Rafuta macroura melanochra*) in ten fragmented lowland rainforest patches in Galle District, Sri Lanka.

My project will be conducted in Sri Lanka's arduous and relatively unexplored Wet Zone. I will address two main problems that currently threaten the incredibly biodiverse flora and fauna of this region: the combined deleterious effects of deforestation and forest fragmentation, and the paucity of information that has been published both on Sri Lanka's Wet Zone and its endemic primates. I will survey three arboreal and endemic mammalian species, namely the southern purple-faced leaf monkey, *Trachypithecus vetulus vetulus*, the toque macaque, *Macaca sinica aurifrons*, and the black and yellow giant squirrel, *Ratufa macroura melanochra.* Ten forest patches will be censused using line transects and distance sampling, to determine the species' abundance, distribution, and range. Selected forest patches will also be sampled floristically and assessed in terms of several habitat variables, to understand better the nature of fragments that contain high primate density. Certain forest fragments will then be proposed for inclusion in the LORRIS biological corridor project. A subsidiary component of my project will be the collection and analysis of primate vocalisations. These will be used to determine presence/absence, frequency of loud calls, approximate location of unsighted individuals, and will be analysed for taxonomic differences between, and possibly within, species.

Lorienne Parker
The status and conservation of the western purple-faced leaf monkey (*Trachypithecus vetulus nestor)* in Sri Lanka.

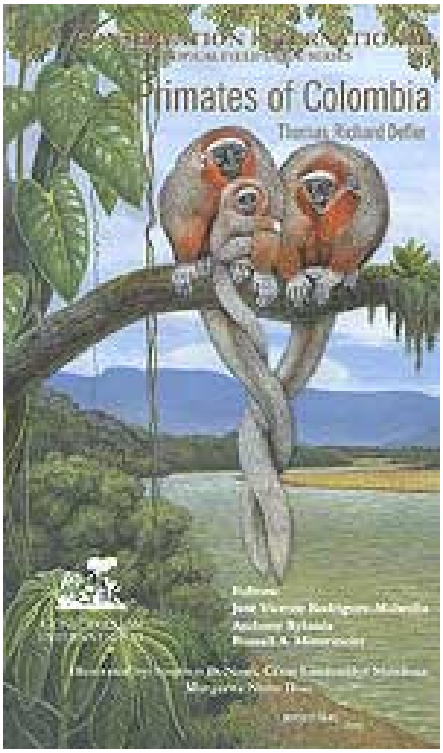
The western purple faced-leaf monkey (*Trachypithecus vetulus nestor*) is Critically Endangered on the IUCN RedList. The species is endemic to Sri Lanka and has recently been placed on the list of *Top 25 Most Endangered Primates in the World*. The population decline is inferred mainly due to the vast habitat loss in Sri Lanka. Despite such impending threats no systematic survey has been undertaken to discover the distribution or abundance of this species. This project will therefore aim to carry out a much needed population census on the western purple-faced leaf monkey. With such little conclusive data on the exact range of *T. vetulus nestor*, this will involve visiting areas of the known historical presence and much of the initial information on locality will be provided by informal interviews with the local people. It is hoped the in information gathered on *T. vetulus nestor* can then be used to formulate a much needed conservation action plan. In addition an integral part of this project, and the long-term survival all of Sri Lanka's wildlife, is an environmental education programme. I propose to carry out a number of talks with different sectors of the community focusing on biodiversity conservation for all of Sri Lanka's flora and fauna, but with particular emphasis on the purple faced-leaf monkey. I also hope to assemble and distribute an educational activity pack to the children at schools in the vicinity of *T. vetulus nestor,* focused on the conservation of the species. This will be a continuation of ongoing work by Dr Anna Nekaris, which highlights the protection of Sri Lanka's endangered slender loris species.

Setting up a research station for mona monkeys in West Africa

by Emma Catlow and Nicky Gordon

Mona monkeys (*Cercopithecus mona*) are the only non-human primates to inhabit a tiny island, Sao Tome, lying hundreds of miles off the West coast of Africa. This highly attractive species of guenon shares the rainforests of Sao Tome with a high level of endemic species, including three Critically Endangered birds: the dwarf olive ibis (*Bostrychia bocagei*), the São Tomé fiscal (*Lanius newtoni*) and the São Tomé grosbeak (*Neospiza concolor*). Sao Tome's unspoilt landscapes have low levels of human encroachment and have thus far received very little conservation effort, but oil has been discovered offshore and production is due to start in offshore waters surrounding Sao Tome in 2-8 years. This could have disastrous effects for the local wildlife. The discovery is of offshore oil, so the dangers are personnel influx, increased pressure on natural resources and increase in waste.

The International Primate Protection League (IPPL) are therefore interested in placing a research station on the island to attract international scientists, as well as local scientists and university students to conduct research on mona monkeys, a species about which little is currently known. The research station will also house a sanctuary for injured, abandoned pet and orphaned mona monkeys. This will serve as an educational facility for local children, who can be educated to foster a respect for wildlife, as well as to attract tourists to the locality, creating employment and generating revenue and thereby affording protection to the mona monkeys and their habitat. We will be carrying out surveys in order to advise IPPL on the ideal location for the research station.



Primates of Colombia. Thomas Richard Defler. 542 pages. Illustrated by Stephen D. Nash, et al.
Editors: J. Rodriguez, A. Rylands, and R. Mittermeier.
Conservación Internacional Colombia, 2004. **Price: £25**

The income obtained from this book supports the Biological station OME, in the Colombian Amazon, where research on the primate community is carried out by the author, Professor Thomas Defler.
If you want to order the book, please send an email to: lllugens@yahoo.co.uk

Students Past work

Successful gibbon rehabilitation in Thailand

by Sam Shanee and Noga Shanee

The Gibbon Rehabilitation Project (GRP) is a non profit organization dedicated to the conservation of the endangered white-handed gibbon (*Hylobates lar*). The GRP aims to develop a protocol for successful rehabilitations and releases of gibbons into the wild. Gibbons Confiscated by the Thai authorities are handed over to the GRP where they enter a long rehabilitation process in preparation for release to the Khow Phra Thaw Non Hunting Area in Phuket. The KPT is a part of this species former range; however they were hunted to extinction there in the 1980s.

Gibbons are mainly hunted to satisfy the demand for pets and tourists attractions. It is estimated that ten individuals are killed for every baby gibbon that survives long enough to get to markets. They are used as picture opportunities for tourists. Most of the gibbons that arrive at the GRP are in very poor condition; some can not lift themselves from the ground after months of confinement in tiny cages - most have been kept on inadequate diets.

Rehabilitation begins after a thorough health check. Only physically and psychologically sound individuals are sent for rehabilitation; the rest are kept indefinitely by the project. In-situ rehabilitation combines a series of environments designed to encourage development of a full behavioural and motor repertoire. This process can take up to ten years.

Four groups have been reintroduced so far, utilising soft release methodology including a full acclimatisation period at the release site and supplemental feeding for up to one year after release. The groups have expanded their territories and are showing wide range of species-specific behaviours. This is especially conspicuous in juveniles. The first wild-born gibbon is now four years old and shows no interest in human observers.

Yoge group. shortly after release enjoying supplemental feeding in a sunny forest morning. Photo: GRP 2004

Extensive environmental education work is carried out in conjunction with the reintroductions, in local schools and communities as well as with international tourists. The aim is to end the demand for poached gibbons and to ensure the conservation of the species and its habitat.

Social and solitary behaviour of the Northern Ceylon slender loris *(Loris tardigradus nordicus)* and the red slender loris (*Loris tardigradus tardigradus*) as a result of olfactory, visual, and auditory enrichment.

by: Kelly Ablard

Primates belonging to the subfamily Lorisinae, despite assessments of their wild populations ranging from Vulnerable to Critically Endangered, are amongst the least studied primates in zoos in the United Kingdom. Low reproductive success in captivity and death of animals due to stress may be linked to captive environments lacking proper enrichment and inappropriate diet and social housing.

However, as *no* studies have been conducted on UK lorises examining such issues, baseline data are imperative for the development of appropriate management of lorises in captivity. In response to this, research was conducted on captive Northern Ceylon slender lorises *(Loris tardigradus nordicus)* and a red slender loris (*Loris tardigradus tardigradus*) in order to obtain a baseline behavioural record of their social and solitary behavioural responses to olfactory, visual, and auditory enrichment. Such stimuli, specifically olfactory stimuli, was chosen for this study as olfactory communication represents one of the most important aspects of loris behaviour in the wild, yet are rarely shown in captivity. I was hoping that by the introduction of an effective enrichment regime, less stressful solitary and social behaviours (i.e. scent marking, play, and allogrooming) of lorises would increase; therefore, the welfare of slender lorises can be improved.

Scents, models, and sounds from nine predators and non-predators were presented to the lorises within their enclosures, apart from the sounds. Odours were in the form of either urine, or faeces. The models were presented on either branches, or on camouflaged poles to help alleviate any observer effects. The sounds were burned onto a CD and emission of these sounds was achieved by hooking the portable player up to two camouflaged portable speakers.

Overall, social behaviour among these 'non-gregarious' animals did positively increase during the enrichment tests. In addition to an increase in social play and allogrooming, unique patterns of scent marking were observed. These patterns deserve further investigation as to what signals these scent marks were conveying to conspecifics and/or to interspecifics. Scent marking was evident among all lorises, but was prevalent in the older females, which could be attributed to their social grouping (i.e. female dominance).

Overall, stress responses by these individuals did not increase during the post enrichment phase compared to the baseline phase, but rather decreased by 3.3%. This would suggest that the stress responses were acute rather than chronic. This is an excellent finding, especially if further studies could be done on the benefits of acute stress in slender lorises.

Behaviours observed among these lorises in response to their environment and the enrichment suggests that enclosures should be conducive to exploration, locomotion, and scent marking. This is vital since poor husbandry management techniques have been thought to be the culprit in many unnecessary deaths. Ultimately, many would agree that all of these behaviours, if properly enhanced, could lend to their well-being in captivity. This study could also provide ground work for possible conditioning of fear in lorises of predators for reintroduction purposes; therefore, increasing their survival rates.

Pilot study to assess the need for primate conservation in northern Punta Burica, Costa Rica.

by Kathryn Mann

There have been limited primate conservation studies coming from Punta Burica of southwest, Costa Rica. The purpose of this study was to determine the need for primate conservation in this region of Costa Rica, which has been identified as a priority for conservation.

In conjunction with the primate surveys, I conducted a botanical investigation in order to identify conflicts between the needs of spider monkeys and the needs of local people. The spider monkey was the least commonly encountered primate and was completely absent from the Punta Banco study area. The botanical survey identified the vulnerable trees *Caryocar costaricense* and *Eschweilera neei*, which provide food for the spider monkey, with the former being an important sleeping site as well. In addition both of these species are sought after for human use.

White-throated capuchin

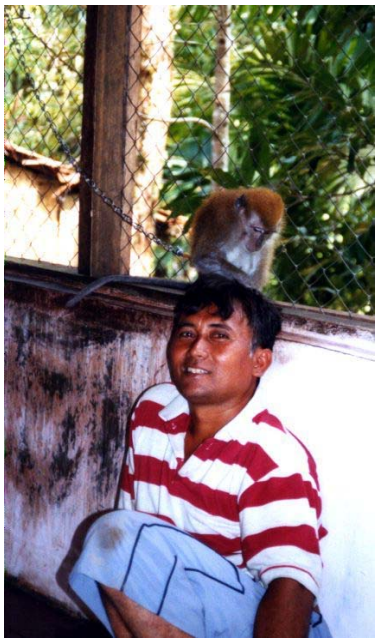
It was found that proactive conservation efforts are needed in order to prevent the local extinction of the endangered Panamánian red spider monkey. The endangered and endemic squirrel monkey is also worthy of proactive conservation efforts. Some members of the Ngäbe community, which are an endangered people, have shown considerable interest in the conservation of the spider monkey and are willing to collaborate on a conservation project.

Amigos de los Monos, Friends of the Monkeys, had an inaugural meeting in 2005 in order to reach consensus on the first steps of the monkey conservation project, with the spider monkey as a flagship species. As economic incentive to terminate the hunting of the spider monkey and the destruction of their habitat, some Ngäbe people are willing to house researchers that are interested in primatological, conservation, or cultural studies. It is hopeful that the Ngäbe people will be able to retain their remaining traditions with the opportunity for employment within their reserve. Any former or future students wishing to carry out research in this area will be participating in this project, and their research fees will be contributing to conservation.

Primate crop-raiding: A study of local perceptions in four villages in North Sumatra, Indonesia

by Valérie Marchal

Human-wildlife conflicts have been highlighted by conservation organisations as a key issue to be addressed within conservation during the 21 st century. To date comparatively little information has been published about crop raiding by primates, though this is gradually being remedied. The main threats to the survival of primates in Sumatra are habitat destruction and persecution as pests. In addition, primate species are now facing another problem: conflict with local people when they cause damage to fruit crops and are thus a drain on local livelihood economies.



Farmer keeping a long-tailed macaque as pet (Tangkahan)

The research that I conducted aimed to characterize the perceived impacts of primate crop-raiding in four villages of North Sumatra. Data were collected on the crop species grown, the identity of the crop-raiding vertebrate species, the perceived extent to which each vertebrate species damaged crops and the preventative measures taken in the four villages. An independent assessment of crop damage to 168 trees representing 13 crop species grown was also conducted.

Farmers reported cultivating 16 different crop species and 85.7% of them grew rubber trees. Crop raiding by wildlife was perceived by 94.9% of interviewees as being the most important limit to crop yields. Thirteen vertebrate species were reported causing damage to agricultural production. Even though species such as squirrels, porcupines, pigs, deers and elephants were identified as being significant pests, primates were perceived as damaging crops differently from the other vertebrate species. The long-tailed macaque and the Thomas' leaf monkey were considered as the two most destructive crop-raiders in all locations. Contrary to what was expected prior to the completion of the field study, only a small proportion of farmers complained about the Sumatran orang-utan.

Twenty crop protection techniques were reportedly used to prevent wildlife damage, and shooting and trapping were perceived as being the most successful preventative measures taken against primate crop-raiders. Nevertheless, using guns was not reported as being the most common protection method; a result which may reflect a fear of being punished if the interviewee confessed shooting primates.

No single solution guarantees success in alleviating human-primate conflicts in Sumatra. Instead, a combination of techniques based on a co-operative parternship between local communities and wildlife management authorities may be the most effective in the mitigation of the problem.

A longer period of research would allow for a larger number of villages where similar conflicts occur to be assessed and could contribute to the creation of a centralized database on the human-primate conflict issue in North Sumatra. Successful conservation of primates utilizing agricultural areas in Indonesia is likely to become a central issue, as increasing amounts of the remaining natural forest continue to be put under cultivation.

Study into Natural Behaviours of Captive Ruffed Lemurs (*Varecia variegata)* in Semi-Free Ranging Enclosures

by Simon Downs

Ruffed lemur populations have fallen in the wild due to habitat loss, hunting and cyclones, resulting in populations living in isolated forest fragments. Where reintroductions have been attempted, an inability to show adaptation to the wild environment due to previous captive environments have resulted in failure. If future reintroductions of this species are to be successful there exists a pressure on zoos to preserve the full behavioural repertoire of this species.

Captive ruffed lemurs housed in different-sized free ranging enclosures at Woburn Safari Park and Cricket St Thomas, UK, were studied to evaluate natural behaviour display and to determine whether the application of arboreal enrichment could enhance levels of activity, feeding and foraging and arboreal locomotion. Results were compared between enclosures and with studies on *Varecia* conducted in the wild and discussed in terms of the potential for enclosures to be used as 'boot camps' for future reintroductions.

Enrichment had greatest impact on the smaller sized enclosure at Woburn, producing significantly higher levels of activity, feeding/foraging and arboreality. At the larger naturalistic enclosure at CST, where the Varecia escaped on a regular basis, enrichment produced significant findings only for arboreality and suspensory feeding.

At both study sites arboreal enrichment was an effective means in the quantitative and qualitative expression of natural behaviour in captivity. However, enclosure design at CST and the adopted feeding regime at Woburn, acted to lessen the effect of the enrichment. Thus, to enable a switch to a natural behaviour profile required long term application of enrichment.

The main conservation concerns from this study were over natural behaviour loss from relaxation of natural selection where situations permit captive *Varecia* to adopt a more terrestrial existence. This occurred at both sites, with each group of *Varecia* demonstrating a tendency for increased terrestrial behaviours. To promote the enclosure as a potential 'boot camp' it is advisable that the current method of feeding be replaced by a more appropriate method for the stimulation of arboreal feeding, foraging and locomotor behaviours**.**

Primate Conservation MSc Fund-Raising Campaign

by Ally MacDonald

Three new scholarships could become available to students in habitat countries wishing to join the MSc in Primate Conversation at Oxford Brookes.

As part of an ongoing fund-raising campaign, discussions are taking place with potential donors to set up sponsorship schemes for students from places such as Madagascar, Colombia and Sri Lanka.

It is hoped that bringing more people from habitat countries to the course will enable those students to return to their home countries to make a difference in primate conservation, as well as widening cultural understanding for the rest of the student cohort. Current students from habitat countries have already added a further dimension to class discussions and projects, and have helped home students in practical ways like offering language classes and travel advice. In addition, a future distance-learning option could enable more students in habitat countries to study without needing to come to Oxford.

The Primate Conservation fund-raising campaign has raised £35,000 so far, thanks to several generous donations. Some of this money may benefit current students with the purchase of new equipment, such as audio recording devices to study primate vocalisations, which could be used in research projects this summer.

Money will also be used to establish a new staff research fund. The chief aim of the campaign is to eventually establish a new teaching position. A world-class conservation biologist would be appointed for three years to contribute to teaching and research.

The Chancellor of Oxford Brookes University, Jon Snow, who launched the fund-raising appeal last November, believes the money raised will “help save some of the planet’s last wildernesses and their primate inhabitants by enabling us to train the next generation of conservationist around the world”. The overall campaign target is £300,000.

For more information, please contact Tom McNeil on 01865 484850 or tmcneil@brookes.ac.uk, or consider donating on-line at http://brookes.networks.co.uk/donations/index.html

Book Review
'Primates In Perspective'

(Edited by Christina J. Campbell, Agustín Fuentes, Katherine C. MacKinnon, Melissa Panger and Simon K. Bearder). Published March 2006.

Review by Ally MacDonald

How many primatologists does it take to write a modern overview of primatology?
59 actually. That's how many primate researchers have contributed to the first textbook in nearly 20 years to provide an account of contemporary primatology. In fact, you could even say it's ahead of its time, as the publishing date is printed as 2007!

The last comprehensive primate book was 'Primate Societies' (Smuts et al.) in 1987. With no update likely, the editors behind this volume decided it was time to reflect some of the developments in primatology over the last two decades. There have been significant improvements in methodology, advances in technology, developments in scientific techniques and increases in the number and type of primates being studied.

The book is aimed at primatology undergraduates, lecturers and professional researchers. It aspires to be an all-in-one resource, with 44 chapters split into six sections entitled background, taxonomy, methods, reproduction, ecology and social behaviour and intelligence. It focuses on field research of primates in the wild.

No other recently published primate volume includes a comprehensive section on taxonomy. This section is heavy-going for the uninitiated, but will save having to get a separate resource to learn about classification and biology. The lack of pictures makes this section rather daunting though, and readers will probably prefer to dip in and out rather than try to read straight through.

The section on methods is another useful departure from other primatology textbooks, and will be particularly useful for those planning primate research. It will also encourage critical thinking about the research methods used in the primatological literature.

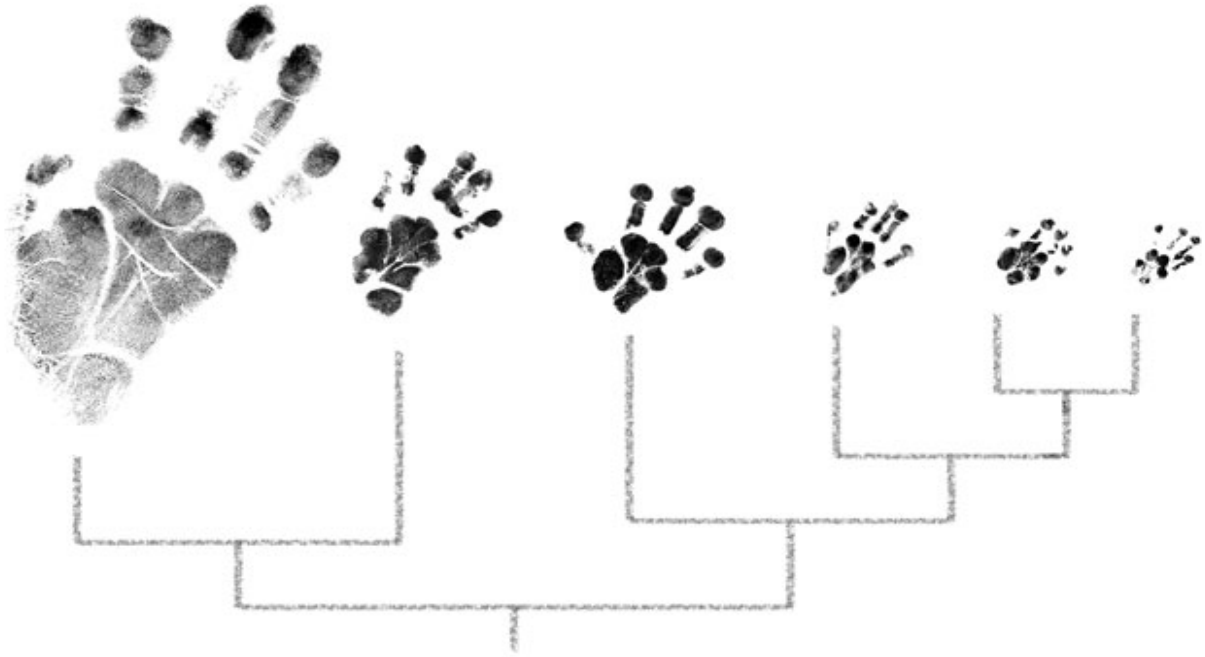
The remaining chapters provide bite-sized discussions on everything you can think of relating to primates, from aggression all the way through to zoonoses. Turn to the chapter on tool-use for example and you get an overview of field studies, a framework of conceptual issues, and a description of recent developments and issues for the future. The information is offered in digestible chunks, but again the lack of colour photographs is a pity.

One personal disappointment is the scarcity of conservation issues. As the editors note, 20% of all primate species are now listed as 'Endangered' or 'Critically Endangered', yet only one of the 44 chapters is devoted to conservation. Whilst conservation is an underlying theme in many of the other chapters, and in the concluding comments, the specific threats and possible solutions could have been much expanded. This is one area where for me the book does not quite fulfil its aim of being a comprehensive text. Another area, in my opinion, is the lack of discussion about captive primates.

Overall this would make an excellent core textbook for the Primate Conservation MSc. At only £30, it would also save a tidy sum on buying separate textbooks for different aspects of primatology. Perhaps in another 20 years when it's time for another update, some past and present MSc students could be contributors!

Göttinger Freilandtage Primatology Conference

'Primate diversity: Past, present and future'



December 13 - 16, 2005.

http://www.dpz.gwdg.de/sociobiology/GFT2005/index.htm

Mulling Over Primate Diversity

By Sarah Jaffe & Johan Karlsson

The bi-annual, Göttingen Freilandtage primatology conference was held on 13-16 December 2005 in Göttingen, Germany, just in time for the marvellous Christmas markets and mulled wine.

This year's hosts were the German Primate Centre (DPZ) and the Zoology Department at the University of Göttingen. The festivities commenced with a banquet dinner headed by the mayor of Göttingen in the Old Town Hall, beside the wonderful Christmas market in beautiful downtown where a big supply of mulled wine was not left unattended!

A wide range of presenters came to speak, including taxonomist Colin Groves, geneticist Mike Bruford and primatologist Russell Mittermeier. The discussions revolved around this year's conference topic of Primate Diversity—Past Present and Future. Presentations were mainly primate oriented, but seeing as this was all about diversity, discussions were also related to research on bats, birds and even lice.

In true primatological conference fashion, the week could not end without the traditional and very entertaining dinner and dance social.

For further information on the MSc and details on how to apply please contact:

Iris Geens
School of Social Sciences and Law,
Oxford Brookes University,
Gipsy Lane,
Oxford OX3 OBP,
United Kingdom

igeens@brookes.ac.uk

+44 (0)1865 483750

+44 (0)1865 483937.

Room G4.18,
Level Four,
Gibbs Building ,
Headington Campus