

A Future for Primates: A Letter from the Editors

What is our role in the conservation of declining primate populations for the future? How do we effectively reach this goal? The answers to these questions, addressed by various disciplines, is the common thread that links the latest issue of *Canopy* together. The following articles offer a glimpse into the challenges faced by the conservation community.

relationship between knowledge, concern and action. Contributing authors to this journal offer multi-disciplinary views and ideas about the future of our role in conservation. By sharing information across conservation organisations such as zoos, media and academics, we can all work together to put realistic solutions into action.

There is a crucial

To think about the future is to act now...



The MSc in Primate Conservation at Oxford Brookes University incorporates this idea of a multi-disciplinary approach to primate conservation by focusing on the following topics:

- Primate Diversity, Bio-Geography and Status
- Human-wildlife conflict
- Research methods
- Genetics and Population Management



The following is a list of guest lecturers for the *Primate Lecture Series*:

- April 27th: **Russell Hill**; University of Durham, "*Predators and primates: relationship within and between populations and species.*"
- May 11th: **Dr. Alison Fletcher**; University College Chester, "*The social behavior of immature gorillas*"
- May 25th: **Nick Davis**; specialist keeper at Chester Zoo,
- June 1st: **Jim Anderson**; University of Stirling, "*Enrichment for Primates: Challenging Environments and Behaviour.*"

INSIDE THIS ISSUE:

Conserving Sri Lanka's Slender Loris	2
Primate Conservation in the Colombian Amazon	3
The Conservation of Orangutans in the Future	5
Primates in the News	9
Buyers Beware: Cruelty Free Today for a Better Tomorrow	11
The Role of Media in the Future of Conservation	13
Should Africa's National Parks be Privatised?	15
What is the Future Role of Zoos in Primate Conservation?	16
Drastic Measures: Gorilla killed in Dallas	18
Forest Survival Guide	19
A Conservation Strategy on Bioko Island	20
Evolution Candle	
Realities a World Away	22
Where are we going?	24
Student abstracts	25
2003/2004 MSc student titles	31

Anna Nekaris
Nocturnal Primate Research Group
Oxford Brookes University

Asia harbours a unique group of tail-less primates, characterised by enormous close-set eyes, vice-like hands and feet, and a stealthy and graceful climbing locomotion that is the envy of dancers and martial artists alike. These are the lorises, and they are amongst the least studied primates in the world. Three general 'morphs' – pygmy, slow and slender – occur, and diversity within these groups is only now being uncovered. For the last two years, I have been conducting research on the slender loris in Sri Lanka. This is the first study of its kind in Sri Lanka, and has brought with it surprises, as well as cascading effects for both the

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people and the animals living side by side with the lorises.

One slender loris species with four subspecies was thought to be resident in Sri Lanka, closely allied to two additional races in southern India. Sri Lanka, however, is an island rich in biodiversity and complex ecoregions. In the southwest, where the last remaining vestiges of rainforest remain (amounting to less than 3%), species richness is particularly high, resulting in the declaration of this part of the island as one of the world's 11 hyper hotspots. Recent research, delayed due to decades of civil war, has revealed numerous new amphibian species, a new owl, and a new fruit bat. It is not really a surprise that another type of slender loris, shy, small and nocturnal, should be creeping around the nocturnal rain for-



ests undetected by science.

This newly recognised species is called the red slender loris, and differs from other Ceylonese forms in its red coat, and a body size of about 120 g, which is less than half the size of other lorises on the island, and 1/3 the size of Indian slender lorises. It is also unique in its locomotion, as slender lorises have been called sloth-like in their movements, but this tiny red loris has surprised everyone by its speedy running! It also has a distinct call to other forms, suited to life in a dense rainforest.

The trouble is that these rainforests are disappearing at an alarming rate. An important component of our research is to characterise the forest fragments, all of which are exceedingly tiny (generally 500 ha or less). Despite protection from the Forest Department, a burgeoning human population must use the forest for subsistence. Chronic human disturbance of the forest for firewood, rice cultivation and timber is creating 'top down' effects, and

without sophisticated intervention from forward thinking foresters, these forests will not be able to recover.

Thus, what we consider to be one of the critical components of our project is conservation education. The next generation truly holds the future of these forests in their hands. But like anything that is before one's eyes every day, they may not realise the treasure they possess. For example, most villagers have never seen a loris. Via conservation classes, workshops in the forest, educational materials

posters, bags, been ing ple in frag-con-wildlife. get vil-students



including stickers and we have encourag-young peo-these forest ments to serve their In one tar-lage, the have

Primate Conservation in the Colombian Amazon

Angela Maldonado

MSc candidate in Primate Conservation

Throughout the Amazon Basin, Woolly monkeys (*Lagothrix lagothricha*) are among the most threatened species owing to hunting pressure, deforestation and a massive illegal trade in endangered fauna and flora. The consumption of large primates by indigenous peoples in Amazonia is not only important to their diet, but also plays a significant role in their culture and hunting traditions. Due to a strong association between hunting and tradition, initiatives to address woolly monkey conservation present a difficult challenge.

In recent years, hunting has had a devastating

effect on wild *Lagothrix* populations, bringing about a considerable reduction in the abundance of this large-bodied species. Hunting has also caused a marked change in the social structure of these primates.

This urgent need to carry out conservation and management programmes led me to embark on a preliminary study of the status of the Woolly Monkey (*Lagothrix lagothricha lagothricha*) in the Amacayacu National Park in the Colombian Amazon. The principal aim of this Woolly Monkey Project is to examine hunting pressure in an area where woolly monkey populations have been showing signs of rapid decline, and may be locally extinct in some regions. Amacayacu, Colombia's largest National Park, is situated in the southern extremity of the Colombian Amazon. In all, six indigenous communities live there.

In August 2003, thanks to the financial support of the Monkey Sanctuary Trust, I was able to look at the current conservation status where the forest was close to communities. I carried out a preliminary survey for the project, including an initial wildlife survey. I found indications of substantial changes within the forest, especially when compared to other regions of Colombia, such as La Serrania de la Macarena, where hunting pressures on wildlife populations are much less. The absence of woolly monkeys was particularly evident in Amacayacu.

Following discussions, I found the local people extremely receptive to the concept of conservation, resulting in a crucial commitment to the “woolly monkey project”. In particular, the indigenous communities gave me formal



Image 1: Zaragoza indigenous community: Some anecdotal information from hunters was recorded



Image 2: Research staff- “Woolly Monkey Project”: Dr. Sara Bennett (Adviser), Nomi (woolly monkey), Rosita (razor-billed curassow) and me.



Photo by Angela Maldonado

The Conservation of Orangutans in the Future

Michelle Desilets
Director, Borneo Orangutan Survival Foundation

The plight of the Great Apes is not new. Through pioneering studies, early research revealed the threats facing our closest cousins decades ago. So why should we now be concerned about their future? After all, they have survived despite the warnings issued over the years. Indeed, mountain gorilla populations have gone up recently. Surely, the conservationists were just overdoing it.

But they weren't. The threats to the continued survival of Great Apes in the wild are as real as ever, and in most cases, intensified. Multiple threats to the orangutan, in particular, are cause for enormous concern. So much so that an international workshop involving the top experts in orangutan conservation, ecology, and behaviour took place this January at The Schmutzer Primate Centre, Jakarta, to discuss the implications of the current status of the wild orangutan. The meeting also adopted the new taxonomy for orangutans, recognizing the three described subspecies of Bornean orangutan *Pongo pygmaeus*, and the Sumatran orangutan as a separate species, *Pongo abelii*.

The Population and Habitat Viability Assessment (PHVA) workshop, hosted by the Borneo Orangutan Survival Foundation, (BOS), the Gibbon Foundation and the IUCN SSC Conservation Breeding Specialist Group, provided an opportunity for world experts on orangutan behaviour and distribution to estimate the current population. Experts included BOS Scientific Advisors Prof. Carel van Schaik of Duke University and Dr. Jito Sugardjito of LIPI's Institute of Biology. Although it had been generally believed that the population numbered about 15,000-20,000, based on estimates from the late 1990's, new surveys with improved techniques revealed unexpectedly large populations in areas not previously surveyed systematically, bringing rising estimates to a total of 50,000-60,000 individuals in Sumatra and Borneo. Recent census estimations represent no real increase in orangutan numbers. What remains critical is the continuing and consistent rate of population decline,

and unless huge measures are taken, the orangutan will be extinct from the wild within 10-20 years. Van Schaik states, "The estimated number of orangutans in Borneo today is higher than we thought a decade ago, but that doesn't mean that the actual number is higher. In fact the bad news is that, from the loss of habitat we conclude there are at least one third fewer than there were a decade ago." Experts present at the conference made the following urgent recommendations:

Orangutan Scientific Commission formed and secured seed funding for two coordinators, one Malaysian and one Indonesian, to maintain the momentum of the workshop, and assist in developing the National Great Ape Survival Plans called for by GRASP.

Improved protection and law enforcement of key populations in and outside of existing protected areas.

The creation of new protected areas to save newly identified viable populations of orangutans.

According the highest priority to the Mawas area, a half million hectares large peat swamp area proposed for protection by the BOS Foundation in Central Kalimantan. orangutan forests.

- To halt the establishment of the Ladia Galaska road scheme through the Gunung Leuser National Park because, in addition to existing threats, computer models show it would hasten extinction of the Sumatran orang-utan.

Two of the greatest threats, as with so many species worldwide, are hunting and habitat loss. Recent investigations by the Environmental Investigation Agency (EIA) and Telapak indicate that illegal logging is spiralling out of control. Although progress was made in 2000, when Indonesia banned the export of the hardwood known as ramin (i.e., appendix I, CITES), the demand for hardwood continues, as seen in the following press reports: "According to the undercover sleuthing of EIA and its Indonesian partner Telapak, thousands of tons of illegally logged Indonesian ramin is laundered through Malaysia each year and sold to unsuspecting consumers around the world." The Greenpeace Rainbow Warrior has embarked on a campaign to further bring to light the issue of illegal logging in Kalimantan." Greenpeace International

concluded that Indonesia's forest destruction was among the world's worst and promised to carry out market campaigns in Europe to block the country's timber exports such as plywood, pulp and paper. What we've experienced here is without doubt some of the worst forest destruction anywhere on the planet at the moment,' said Tim Birch, a member of Greenpeace International" (Borneo News, 2004).

Generally, ruthless clearcutting follows after the useable wood has been collected. Rainforest land is cleared to make way for oil palm plantations and large-scale rice projects, despite warnings from economists, botanists and conservationists that production is short-lived. The Mega Rice project in Central Kalimantan aimed to clear 1 million hectares of peat swamp forest starting in



Photo by Patricia Davidson

Orangutans raid plantations and private gardens and subsequently become easy targets for plantation owners. Adult orangutans have been shot, macheted or beaten to death, and consumed. The capture, caging and sale of infants on the black-market poses a serious threat to the orangutan. Locally, a baby orangutan fetches a few dollars, but by the time it reaches Europe or America, can be worth as much as \$30,000. For every baby that reaches its destination alive, it is estimated that at least five others have died, including its mother, other infants who die of malnutrition or improper care along the way, and their mothers. The experts at the PHVA workshop proposed a number of measures necessary to prevent the otherwise inevitable extinction of the wild orangutan.

Many steps have been taken over the years to put these measures into place. These include the provision for orangutan reintroduction centres in areas where there is greatest need. BOS runs two projects in Kalimantan (Nyaru Menteng in Central Kalimantan and Wanariset in Eastern Kalimantan), presently housing more than 500 orangutans between them. Confiscated orangutans are brought to the centres where they are treated for illness and injuries. The reintroduction process can take years, as youngsters take time to gain confidence and learn the skills they require to survive in the wild again. These centres are also responsible for relocating wild orangutans who risk being attacked when they are found too close to human populations or in areas when there is not enough food. Despite acquiring land for halfway houses for infant and juvenile orangutans, and river islands for bigger orangutans, BOS's centres have reached capacity. The race is on to find suitable land for more releases, as increasing numbers of orangutans fill the centres. Recently a new island, Pulau Bangamat, suitable for supporting approximately 25 orangutans, and funded by BOS UK, was acquired. These islands only provide a stopgap measure, however, and are not enough to secure future generations of orangutans.

For a viable gene pool, at least 2500 to 3000 orangutans need to be present in a continuous stretch of rainforest. The Mawas Reserve, over half a million hectares of rainforest managed by BOS, fulfils this requirement. Populations surveys suggests that approximately 3000 individuals are present. While populations are

not found throughout parts of this reserve, the diversity of fruit trees makes it a suitable release site for ex-captive orangutans. Several orangutans have already been relocated to the Mawas Reserve.

The Samboja Lestari Reforestation is another conservation project undertaken by BOS. Recent conservation efforts in this 6000 hectare piece of land near the Wanariset Project have led to the successful replantation of over 1500 hectares with over 1000 species of trees. Willie Smits and the experts at the Wanariset herbarium are working towards creating a suitable habitat for orangutans. Planting began in 2001 and trees will take only a few years to reach a level of maturity suitable for orangutan release.



Photo by: Helen Buckland

To manage the Mawas and Samboja Lestari Projects, BOS works closely with local communities bordering these areas. These villages will be supported by the production of sugar palm, which not only provides a number of products for use in the community or for sale, but also acts as a natural fire barrier. Small-scale agriculture opportunities between the sugar palms provide sustenance for local families. The project also employs local people. Villages will receive a monthly bonus if the target forest area is not destroyed by humans.

Both areas are monitored by satellite imagery provided by SarVision, which provides detailed images of every square meter, right down to individual trees. Supporters of BOS UK can sponsor a square metre for just £2, and the money raised to date by this sponsorship has supported much of the reforestation efforts undertaken by BOS.

To crack down on wildlife smuggling in Indonesia, BOS works closely with Profauna, an Indonesian NGO that works to protect wildlife, and the

Gibbon Foundation, which funds much of the work. Undercover investigations have exposed a number of major players in the smuggling ring, and several have been prosecuted and sentenced.

It is imperative that the authorities in Indonesia take these matters seriously and that they impose significant fines on those convicted.

The future of the orangutan depends on international public support of conservation organizations and their initiatives. Increased international awareness and pressure on political leaders will help curb deforestation and wildlife smuggling. Organizations must also focus on increasing the number of actively protected areas. Smart consumerism may financially force palm oil plantations and logging concessions out of business. This could potentially make a huge difference, if,



Photo by Patricia Davidson

Primates in the News

Orangutans "may die out by 2025"

The orang-utan, Asia's "wild man of the forests", could disappear in just 20 years, a campaign group believes.

January 12th 2004

http://news.bbc.co.uk/2/hi/science_nature/3383425.stm

Grammar Baffles Primates

Researchers say they've come closer than ever to figuring out why humans can string sentences together and our hairy cousins can't. One of the major barriers to a simian Shakespeare appears to be the inability of primates to comprehend anything other than the simplest rules of grammar, according to a new study.

January 16th 2004

<http://www.health24.co.za/news/Other/1-934,26037.asp>

Primates Trade Smell For Sight

Conventional wisdom says that people deficient in one sense, such as vision or hearing, often acquire heightened acuity in another. These adjustments, of course, take place over the lifetime of an individual. Now it appears, however, that similar adjustments may occur over evolutionary time. Yoav Gilad and his colleagues at the Max Planck Institute for Evolutionary Anthology in Germany and the Weizmann Institute in Israel have found a correlation between the loss of olfactory receptor (OR) genes, which are the molecular basis for the sense of smell, and the acquisition of full trichromatic color vision in primates.

January 20th 2004

<http://www.sciencedaily.com/releases/2004/01/040120033216.htm>

WORLD'S MOUNTAIN GORILLA POPULATION IS UP IN CENSUS

The number of mountain gorillas roaming forests shared by Rwanda, Uganda, and Congo has risen

in recent years in a sign of hope for one of the world's most endangered species, a census showed Monday. Trackers, who have been unable to enter the area for years because of war, said the population of the majestic apes in the Virunga volcano chain had risen to 380 from 324 when the last census was completed 15 years ago.

January 20th 2004

http://www.enn.com/news/2004-01-20/s_12203.asp

Primate research lab plans axed

Plans to build a controversial centre for experiments on monkeys have been shelved by Cambridge University.

January 27th 2004

<http://news.bbc.co.uk/1/hi/sci/tech/3432531.stm>

Brains of Chimps and Humans Closely Related in Gene Expression, Say Wayne State Researchers

A genome-wide analysis of gene expression profiles in the brain provides further evidence that chimpanzees are more like humans than gorillas, demonstrating that chimpanzees are the evolutionary sister group of humans.

March 2nd 2004

http://biz.yahoo.com/prnews/040302/detu019_1.html

Brain Size Surprise: All primates may share expanded frontal cortex

Researchers have traditionally theorized that the frontal cortex, a brain region linked to mental faculties such as planning and reasoning, expanded to an unprecedented extent during human evolution. However, a new analysis of brains from many different mammals takes the uniqueness out of our frontal cortex.

March 13th 2004

<http://www.sciencenews.org/articles/20040313/fo b2.asp>

Primate Viruses Transmitted To People Through Bushmeat

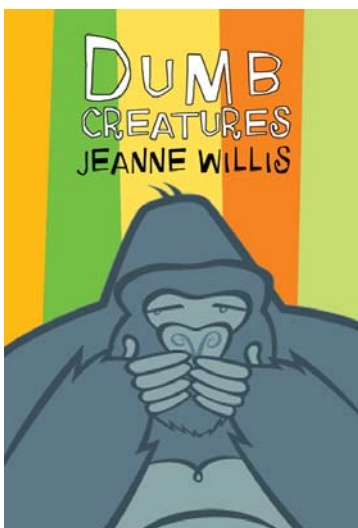
People in Central Africa who hunt monkeys and great apes are routinely being infected by retroviruses, the class of viruses that includes HIV. An international team of researchers from Cameroon and the United States has documented, for the first time, the transmission of a retrovirus from primates to people in natural settings.

March
19th
2004



Photo by: Patricia Davidson

Book review:



An intensely gripping tale about animal welfare and the values of the freedom of speech from a multi award-winning author.

Tom can hear. He can think. But he just can't speak. But that doesn't mean he hasn't got anything to say . . .

Tom's favourite place is the zoo. He enjoys sharing the word-less world of animals - and, just by watching them carefully, he can tell whether they're happy or sad, hungry or hot. But, talking to animals takes on a whole new meaning for Tom when he discovers that Zanzi, the female gorilla, can use sign language. So when Zanzi's baby is stolen, Tom decides to stage an animal rights protest. But with all the adults around him too busy yelling and shouting at each other to really listen, will anyone hear him?

Buyers Beware: Cruelty Free Today for a Better Tomorrow

Patricia Davidson

MSc candidate in primate conservation

Two hundred years after Jeremy Bentham stated, “the question is not, Can they reason? Nor, Can they talk? But rather, Can they suffer” people are starting to listen and with listening comes action. As the public begins to regard current practices, such as vivisection, as unethical, a new wave of alternatives to animal testing is making its way to parliament. With persistence and public support, lawmakers across Europe are finally listening to what people, like Jeremy Bentham, have been saying for centuries. After years of campaigning by animal welfare organizations, a ban on animal testing for cosmetics was issued by the European Union in 2002. The ban, however, does not take effect until the year 2009 in order to allow for companies to make necessary adjustments. Many people are therefore taking action into their own hands by turning to “cruelty free” products, which are popping up in supermarkets across the nation.

Members of parliament, however, are not the only ones who are taking note of public outcry. Companies, afraid of losing quarterly profit, are taking advantage of poorly defined regulations by confusing consumers with ambiguous labels. Even when a product claims to have not been tested on animals, this does not guarantee that the *ingredients* that make up these products were not subjected to these tests. Labels that simply state, “this product has not been tested on animals” are often misleading.

To help people purchase cruelty free products, the Humane Cosmetics Standard (HCS) has established an internationally recognized set of criteria that indicates whether a product is cruelty free. Operating across the United States, Canada, and most of Europe, the HCS will only approve a company that no longer conducts or commissions animal testing. Companies must meet the fixed cut-off date (1978), which indicates that they have not used animal tested products or ingredients after this period in time.

To ensure a product’s safety, companies are able to execute non-animal tests or use a combination of over 8,000 ingredients that have already been proven safe for human use through other means

Provided with clear guidelines by the HCS, companies are required to submit annual written agreements in order to obtain approval. It is to the company’s advantage to abide by established criteria, as commercial endorsement of their ethical stance can give them a competitive edge in the market. The companies list on table 2 (page 12) are approved by the HCS.

Unfortunately, the most noteworthy drawback of the HCS is that virtually all ingredients have, at some point in time, been subjected to animal testing. These standards, however, guarantee that companies do not purchase ingredients tested on animals *after* 1978; thereby abiding by an ethical standard approved internationally by various animal right organizations.

Despite changes in legislation and the establishment of the HCS, it is nonetheless up to the customer to ensure that they are purchasing cruelty free products. Only then will companies be truly motivated to abolish all forms of animal testing, either directly or indirectly through the purchase of ingredients for their products. With the support of the public, cruelty free will someday truly mean *cruelty free*.

To receive a free copy of the Little Book of Cruelty Free, distributed by the British Union for the Abolition of Vivisection, please email info@buav.org.

Reference

Table 2: Cruelty free cosmetics found in the United Kingdom

American Formulating	JR Liggett
Arbonne International	Jason Natural Cosmetics
Auromere Ayurvedic	John Paul Mitchell Systems
Avalon Natural Products	Kingfisher Natural Toothpaste
Aveda Better Botanicals	Kiss My Face
Better Botanicals	Kobashi Essential Oils
Biorganics Hair Therapy Ltd	Life in the Woods
Body & Face St Cyrus Ltd	Liz Earle Naturally Active Skincare
Body Shop	Make-Up International (Face To Face)
Calder Valley Soap Co Ltd	Meadowsweet
California North	Mia Rose Products
Caswell Massey Co Ltd	Montagne Jeuness
Christine Valmy Inc.	Moor Spa International Ltd (Moor)
Conscience Cosmetics	Natural By Nature Oils
Dolma Vegan Perfumes (Dolma)	Nature's Soap Dish
Dr Bronner's Magic Soaps	Neal's Yard Remedies
Earth Science	Osea International
Earth Solutions	Para Laboratories/Queen Helene
English Ideas	Quinessence Aromatherapy
Essential Oil Company Ltd	Red Star Hand Crafted Soaps
Faith Products (Faith In Nature)	Rejuvi
Glad Rags	Safeway Stores plc
Greenridge Herbals	Sainsbury's (Own-label)
Good Earth Catalogue Company	Studio Magic
Honesty Cosmetics	Tara Personal Care Ltd (Tara)
J&D Black Ltd (Hollytrees)	Tom's of Maine

Source: something

For more information and links to vegan friendly stores, please visit the following web-

The Role of Media in the Future of Conservation

Madelaine Westwood

Filmmakers For Conservation

“Why should I care about the state of the planet?” Asked by an intelligent articulate person at a dinner party, this was a shocking question. My immediate response was, “Don’t you know?” and the simple truth was, he didn’t. I mention this incident because it reveals the greatest immediate challenge facing those who work in the most powerful communications industry. How can we reconnect people with the environment that sustains and supports them? How do we show them the physical, emotional, spiritual and surprisingly large financial value that the natural world offers to us, in a way that would have them wanting to protect its worth?

To answer these questions, we must first address some important issues. Firstly, the media is a business. As with any business, it has to make a profit in order to become successful. This means attracting the largest audience possible. Ratings equal big business. Secondly, welfare about the planet and the species that inhabit it is not a priority for many people. For conservation efforts to be successful, they have to engage the interest, will and co-operation of people who are presently indifferent. Both conservation and the media seek to capture the attention of millions of people.

A logical place to start is with the audience. With ‘short-termism’ the cultural philosophy of the day, instant gratification is one way to approach the audience. Quick turn around presenter-led programmes that have information packaged into small, slick slices go down well after a long day at work. On Sundays we have stunning wildlife imagery that distracts us from the week ahead. These strategies have worked well with an environmentally friendly audience,

but we need to target audiences that would not normally watch a conservation film. To do this we have to examine the nature of people themselves and discover how they understand the world.

There are many ways that an audience can access information, and filmmakers and broadcasters are

constantly seeking new approaches to capitalize upon this. We have taken the information apart piece by piece as shown by ‘Animal Camera’ which reveals the mechanics of the natural world. We have targeted heightened emotions such as danger or fear, which are seen in the successful Steve Irwin animals type programmes. We could also access the gentler, perhaps more holistic, nature of people. By producing programmes which highlight complex relationships inside the natural world, we can understand how interdependent, vulnerable and unique we are. Ultimately, we need to access our audience in every way that they will listen to us and be creative enough to hold their attention.

The next question is who is the audience? The traditional broadcast audience is obviously a vital one, but many people do not have access to a television set. Ironically these are the most important people to reach, as they will have had little opportunity to receive conservation information from other sources. This is one area where films can make a difference and a growing number of filmmakers and broadcasters are looking for ways to have their programmes shown where it will have the greatest impact. Initiatives led by the charity Filmmakers For Conservation (FFC), Granada Wild and GASP include investigating ways to send conservation films to local people, organisations, and governments in range states; Richard Brock and his team of Greensparks are working in many countries identifying local problems, and producing tailor-made films specifically for release to that community.

This blueprint could work equally well for conservation organisations linking with FFC and local camera teams to provide increased opportunities to work with target audiences in developing countries. Having programmes readily accessible to new audiences is one way we can address the lack of information available to millions of people. This could show them why they should care, the urgency of the problems, local solutions and leave these communities empowered to take action.

These initiatives begin to tackle reaching our audience but the media should also examine initia-

tives closer to the production end of the programme. We have a responsibility to tell the truth about the state of the planet, and to find ways to reveal the beauty and extraordinary behaviour exhibited by species while, at the same time, being honest about the threats they face. This is a difficult balance to achieve, as good news stories attract the biggest audiences and prompt positive action, while candid reality is less attractive to viewers. Creative programming would to intrigue, entertain and engage the hearts and minds of audience while staying inside within the context of reality. This could be a creative opportunity for a conservation reality show.

filmmakers
for
conservation

The international TV
and media organisation
for global conservation

Your Planet Needs YOU!

"The mission of Filmmakers for Conservation is to promote global conservation through the making, broadcasting and distributing of films, and to help conservation organisations and filmmakers worldwide to make more, better-informed, and effective conservation films."

FFC is the global conservation organisation for the film and television industry – providing a common ground whereby, for the first time, filmmakers, broadcasters and environmentalists can work side by side to tackle conservation issues head-on.

Essential to the success of FFC is the diversity of its members and supporters. To be truly effective our organisation needs support and input from the entire film, television and conservation community. This way we can pool our resources and maximise our efforts in order to bring these pressing issues to the attention of the largest possible audience, as well as to educate, motivate and inspire new audiences to actively support conservation.

FFC has the potential to be a considerable force for change; with your help we will have the opportunity to make a real difference -- for the benefit of the environment.

www.filmakersforconservation.org
paul@filmakersforconservation.org

Should Africa's National Parks be Privatised?

Helen Buckland

In a recent "Talking Point" article on BBC News Online, a lively debate surrounded the topic of the privatisation of Africa's wildlife parks, provoked by a Dutch multi-millionaire's desire to form a company to take over a series of parks in Zambia, Uganda, Kenya, Malawi and Mozambique. Paul van Vlissingen boasts several influential supporters, including the former South African president Nelson Mandela and the World Bank, but he also has his critics, who hold the view that no company should possess ownership rights over one of the African continent's major and most valued resources. Mr van Vlissingen argues that many national parks exist only on paper, with poorly paid rangers overseeing parks that have been emptied by poachers. African Parks Management and Finance Company is designed to bring together public and private resources; according to Mr van Vlissingen "The state could bring in expertise, scientists, animals from other national parks and land, and I could bring in management expertise and the drive to make it go".

The company, which has so far taken over the management of four African game parks (Liuwa Plain and Sioma Ngwezi in Zambia; Majete in Malawi and Marakele in South Africa), has recently signed a deal to run Nech-Sar National Park, which covers 514 square km in the far south of Ethiopia, one of the poorest regions of the country. All parks continue to belong to the countries in which they are found and a pledge has been made that profits will be reinvested into the countries in which the company operates.

As Africa is devastated by wars and battles with HIV/AIDS, wildlife protection may be low on governments' lists of priorities, so privatisation of na-

tional parks may be a way to sustain wildlife as a key source of foreign exchange from the tourist industry. Large-scale financial investment in the parks, as offered by Mr. van Vlissingen, must surely be welcomed, but the question of ownership versus stewardship is fundamental to the success of the scheme. An important argument is that the resources at stake, the land and its animal inhabitants, are not for sale as they "belong" to no single person. There are concerns that the parks should continue to be accessible to local communities, ideally involving them in all stages of the development and implementation of management plans. Revenue generated by the company must benefit local communities in a real way, potentially in the form of employment and infrastructure, in order to be accepted by the people.

The following comments represent the range of views that were presented in the discussion:

"Concern for nature and wildlife is a luxury afforded by countries whose population have achieved sustainable standards of living" Pelumi Fadairo, Denmark

"Should Africa look after her nature alone? No. Global forces are also responsible for exporting poverty to Africa and should import to the West part of the burden Africa has to carry to conserve her resources" Collin Mabiza, Zimbabwe.

"If it takes privatisation to put an end to poaching what are we waiting for? Lack of resources and poor planning have led to the collapse of national parks all over Africa and this needs to be addressed before they turn into derelict dust bowls." Andrew Parsons, ex Zimbabwe.

What is the future role of zoos in primate conservation?

Geoff Hosey

Bolton Institute: Psychology & Life Sciences

Source:

Among my earliest childhood memories of day trips to Bristol Zoo are images of a large and boisterous group of rhesus monkeys in the Monkey Temple, but also of gorillas and chimpanzees in large metal and concrete cages. In those days we had little awareness of conservation or welfare issues, and zoos were seen as places to have a nice day out and see a few animals. Nowadays the public has more knowledge of the animals and of the need for their conservation. Most zoos have embraced this in the ways that they have formulated statements about their role and purpose. A quick trawl of the websites of most British zoos shows that the two goals of conservation and education are prominent on most of them. As primatologists with a concern for the future of the species we study, we can ask, how exactly can zoos contribute to their conservation? It seems clear that zoos can and do contribute to this in at least four important ways: captive breeding, research, working in habitat countries and raising awareness.

For many people, the message that has probably come across most strongly from zoos is that they aim to keep viable self-sustaining populations. Although early analyses suggested that this goal was not being achieved for primates (Lindburg et al. 1986), a more systematic cooperative approach in which Species Survival Plans (SSPs) are implemented by the Taxon Advisory Groups (TAGs) holds much more promise. For some species the SSP includes plans for re-introduction back into the wild, and this is commonly assumed to be the ultimate goal for all endangered species.

In the first issue of *Canopy*, Adam Britt reported on the reintroduction of Black-and-White Ruffed Lemurs *Varecia v. variegata* to Betampona in Madagascar (Britt 2003). He makes the point that lemurs born and raised in free-range environments seemed to adapt to the wild better than those born and raised in cages, so reintroduction of zoo primates may be particularly difficult.

Difficulties may arise because zoo animals (captive or managed animals) might show a changed behavioural profile compared to their wild counterparts. The lemurs referred to in Adam Britt's article, for example, were naïve with respect to predators, and were possibly unskilled at finding food during the Malagasy winter period. Thus it is essential that research be done to try and establish exactly how the zoo environment modifies behaviour. Many British zoos now participate in significant amounts of research, and encourage academic researchers, of whom too few are interested in zoo work (Hosey 1997). Nevertheless, zoo research is growing in volume and quality, as evidenced by the annual research conferences that take place under the auspices of the Federation of Zoos of Great Britain and Ireland.

Research on zoo primates can tell us a lot about their basic biology, as well as about how they adapt to captivity. A large part of zoo-initiated research is in the areas of reproductive and genetic technologies, and both contribute to and are informed by knowledge gained in the field (Ryder & Feistner 1995). Increasingly, zoos are becoming involved in fieldwork through a range of conservation initiatives such as collaboration with governments and conservation bodies, personnel training, and captive breeding in habitat countries, as well as research *per se* (Mallinson 1988). Several of the larger British zoos now devote considerable resources to further conservation in habitat countries.

These efforts require significant amounts of money. Currently in Britain, a large part of zoos' financial resources comes from the public through entrance fees, memberships, bequests, animal adoptions, and so on. It is vital that public interest in, and support for, conservation is actively enhanced. Most zoos promote education as one of their major goals, and they achieve this through talks, events and work with schools, among other things.

So, what of the future? The role of zoos in conservation is now encapsulated in the World Zoo Conservation Strategy (IUDZG/CBSG

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So, what of the future? The role of zoos in conservation is now encapsulated in the World Zoo Conservation Strategy (IUDZG/CBSG (IUCN/SSC) 1993), which effectively sets a benchmark for zoo involvement in conservation. This is an encouraging document, promoting many areas of activity. Each of these activities is important and cannot be prioritised. In my view, however, more could be done in at least two of these areas.

The first is in terms of basic research on the behaviour of zoo animals. At the moment, there are wild populations that can be compared with zoo populations. In the near future, we might have to face the prospect that for some species, the zoo population will be the only one, and we may have lost the chance of evaluating how living in a zoo changed their behaviour. The limited resources zoos can put into research are often directed at improving animal welfare or solving animal management problems. There are many opportunities for university academics to do important but relatively inexpensive research, and hopefully, through the good work of the Zoo Federation Research Group, research will expand over the next few years.

The second area is in terms of raising and maintaining public awareness of conservation and interest in animals.

What little evidence there is suggests that people's positive views of zoos and conservation are

What little evidence there is suggests that people's positive views of zoos and conservation are increased by a "positive zoo experience". These experiences often reflect seeing active animals in naturalistic enclosures, and opportunities to interact with animals. Training, free-ranging and the use of "animal ambassadors" are ways in which some zoos have begun to provide a wider range of experiences, for visitors, with the zoo animals. Once we recognise that most zoo animals will not be returned to the wild, and that many are not contributing to SSPs, then, provided that their welfare is not compromised, perhaps it does not matter if living in a zoo changes their behaviour. These individuals may be good candidates to provide a positive zoo experience, thus raising awareness and support for primate conservation.

References

- Britt, A. 2003. Project Betampona: an experimental restocking of captive-bred ruffed lemurs into the wild. *Canopy* 1 (1): 3-6
- Hosey, G.R. 1997. Behavioural research in zoos: academic perspectives. *Applied Animal Behaviour Science* 51: 199-207
- IUDZG/CBSG (IUCN/SSC). 1993. *The World Zoo Conservation Strategy: the role of zoos and aquaria of the world in global conservation*. Chicago Zoological Society (available at www.waza.org/conservation/wczs.php)
- Lindburg, D.G., Berkson, J. & Nightenhelser, L. 1986. The contribution of zoos to primate conservation. In J.G.Else & P.C.Lee (Eds) *Primate Ecology and Conservation*. Cambridge, Cambridge University Press, pp 295-300
- Mallinson, J.M.C. 1988. Collaboration for conservation between the Jersey Wildlife Preservation Trust and countries where species are endangered. *International Zoo Yearbook* 27: 176-191.
- Ryder, O.A. & Feistner, A.T.C. 1995. Research in zoos: a growth area in conservation. *Biodiversity and Conservation* 4: 671-677.

Drastic Measures: Gorilla killed in Dallas

Anonymous

On 20 March, 2004, Jabari, a 13-year-old, 340 pound male gorilla escaped from his enclosure at the Dallas Zoo. He injured four people and after forty minutes was shot dead by officers. This incident has brought to the forefront issues regarding zoo's capabilities, personnel training, public safety, and animal welfare. The following are excerpts, extracted from The Democrat Herald, describing the events that took place:

"Federal regulators are investigating the Dallas Zoo over Thursday's escape, zoo officials are trying to figure out how the gorilla managed to break out, and animal welfare advocates are questioning whether officers had to kill the beast."

"Some youths had reportedly teased Jabari shortly before he escaped, but it was not known if that was a factor "

"We're just beginning to wonder whether this is some kind of superhuman feat of physical prowess," said Rich Buickerood, who has directed the Dallas Zoo for 12 years. "We just can't believe it."

"Virtually anybody who's worked with great apes has not been able to compute anyway that a gorilla could get up a 15-foot wall," Wharton (Dan Wharton, director of the Central Park Zoo and chairman of the American Zoo and Aquarium Association's Gorilla Species Survival Plan) said. "When you boil it all down, at some level, one

Forest Survival Guide

By: Kathryn Skelly, Naomi Cohen

WHAT'S HOT

Camouflage
Forest trousers
Gators
Flip-flops
Wellies
Bandanas
Dark socks
Headlamp

Mosquito net
Compass
Nalgene bottle
Swiss army knife
Ziplock bags
Oatmeal
Coffee
Water filter/tablets
Biodegradable products
Laundry scrub brush
Tweezers
Toilet Paper
Citronella
Powder to tackle prickly heat
Anti-biotic cream
Deck of cards
A fresh change of clothes for the trip home

WHAT'S NOT

Attracting animals
Ants in your pants
Slippery leeches
Splinters
Foot rot
Cowboy hats
Dirty whites
Bumping into elephants on your
way to the loo at night
Mosquitoes
Walking in circles
Dry mouth
Finger food
Soggy bread
Rice for breakfast
4 AM wake-up calls
The runs
Dead fish
Scrubbing your laundry with sand
Ticks and uni-brows
Unidentified leaves
Deet in eyes
Heat rash
Festering wounds
ETB (early to bed)
Small seats and smelly passengers

A Conservation Strategy on Bioko Island

David Fernández

Bioko Island (2,017 km²), a tiny island off the coast of Cameroon, is where I have been living and working for almost a year. The island's black sand beaches, vivid green rain forests and a 3,300 mile-high extinct volcano are breathtaking, though none of these characteristics compares with the experience of seeing a noisy group of black colobus jumping around above you without a care in the world.

There are four species of cercopithecines on Bioko Island: Preuss's guenon (*Cercopithecus preussi insularis*), putty-nosed guenon (*Cercopithecus nictitans martini*), crowned guenon (*Cercopithecus pogonias pogonias*) and the russet-eared guenon (*Cercopithecus erythrotis erythrotis*). There are two species of colobus: Pennant's red colobus (*Piliocolobus pennanti pennanti*) and black colobus (*Colobus satanas satanas*). Bioko is also home to the drill (*Mandrillus leucophaeus poensis*), the most endangered African primate. All of these primates on Bioko are threatened from hunting pressure due to the bushmeat trade.

Several important steps have been taken in order to try to conserve these primates. Since 1997, the Bioko Biodiversity Protection Program (BBPP), a joint program between Arcadia University, Philadelphia, USA and Equatorial Guinea National University (UNGE), has been working in two protected areas in Bioko: Pico Basile National Park (PBNP) and the Caldera de Luba Scientific Reserve (CLSR). Local people work closely with BBPP by gathering valuable data on the seven diurnal monkey species. The presence of local people working in the reserves helps deter illegal hunters away.

During the summer of 2002, a total of 1,922 'No Hunting' signs were placed along more than 41km and 39km of the PBNP and the CLSR boundaries, respectively. We organized a series of awareness meetings with government officials and local village leaders that addressed the existing hunting ban within the protected areas. A surprising number of people did not know anything about the law that had been passed 15 years earlier! We also conducted an island-wide survey, distributed to hunters, to better understand the socioeconomic aspects of hunting.

The BBPP carries out a yearly census on the primates in the Gran Caldera de Luba. Data collected on the approximate population densities are subsequently compared to data from surveys in previous years. Both research and the involvement of local communities will help to conserve these primate species but many more steps need to be taken in the future. We must not forget this island, rich in biodiversity and locals willing to save it.

More information about the Bioko Biodiversity Protection Program can be found at the following website: <http://www.bioko.org>. Results from the island-wide survey on hunting will be displayed at the International Primate Society meeting, 23rd-28th August 2004.

Evolution candle

© djread 2004

Born
from the
broken
molds of
many
a
yesteryear.
Shaped by
the survivors
of all the
past battles.
The ins
and outs
of the
ups and downs
of long gone
frowns.
The give,
Take,
push and pull
of the
struggles
stretched-out
before.
The lost
eliminated
by chance
or by
pure
aggression
of adaptation.
We all
here today
have inherited
that chance.
The blossoming pupae

Realities a World Away*Anonymous***Part One: A New Day**

From east of the Mahale Mountains, the sun slowly rises to awaken a new day. As the warmth spreads across his body, he awakens to the song of the tiny pygmy kingfisher as it flutters about through the trees. He lies awake for a few moments to take in all the magnificence spread out before him—in the beautiful forest that resides next to the plains of East Gombe. The air is filled with the fresh scent of morning, as flowers bloom and bees hum as they collect their honey. A gentle breeze spreads the fertile seeds from the tall fig trees—bring a promise for new life.

He closes his eyes, squeezing them tight—and stretches his arms, his legs, his fingers, his toes—as muscles underneath his vastness get for the journey ahead. As he climbs down from his nest, safely hidden in the foliage of the tulip tree, he spots his group tucked away under a tangle of lianas. Holding her youngest son close to the protection of her warm body, his mate sits quietly as she munches on a handful of fresh guavas. Their leader, his dominance clearly apparent by his massive structure, waits quietly on the branches of the closest fig tree as he carefully observes the surrounding area. Just yesterday, a poucher, who when traveling upstream, killed a weakling from their neighboring group.



Photo by: Helen Buckland

But it was a new day. A time, which by far, is the most desired...the most anticipated. He joins his family under the foliage to groom and to feast on the collection of bugs, fleas, ticks, and termites had that collected during the cool summer night. In the distance, he could hear the rush of the Lubulungu River as the rapids rush wildly down into Lake Tanganyika—spilling out into the openness.

On most days, soon after the grooming and the morning meal is complete, he heads down to where the river spills into the lake, getting lost in the maze of ravines and gorges. He is afraid of water, as most chimpanzees are, but the area is peaceful and he can remain there. Alone. Undisturbed for hours. It is clear, in the beautiful forest of Gombe, that he is free. Completely free. Unaware of the fate his kin faces in an environment just a world away.

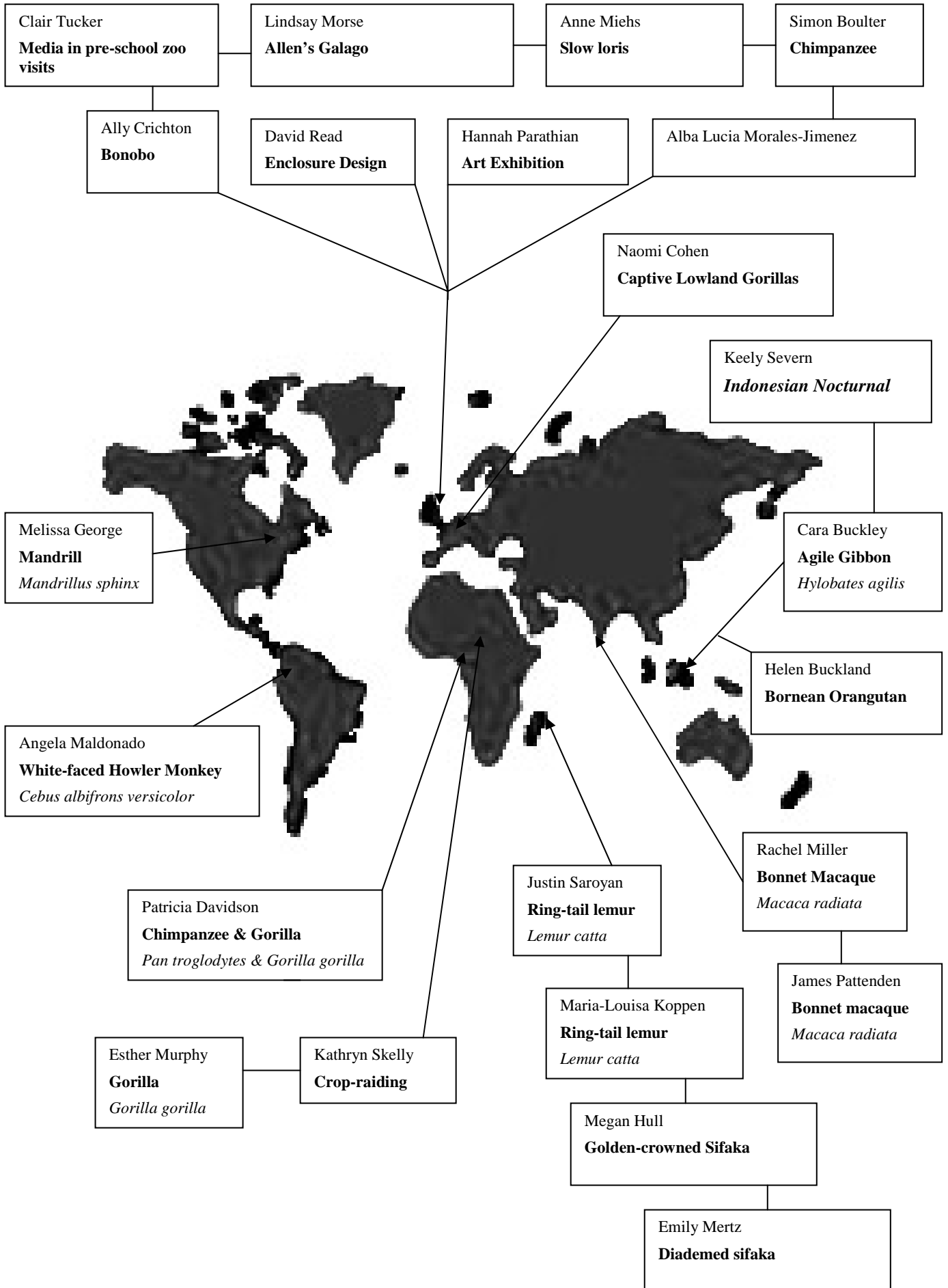
Part Two: Lab Monkey

I am just like you. You don't see it. You choose not too! You cut me. I bleed. I cry out, you don't hear me. Can you not hear my pain as my very existence escapes from my dying corpse? I scream out as the sharp razor blade digs deeper into my now hairless flesh exposing a gushing stream of oozing blood. It is brilliant shade of scarlet that seeps from my veins as you prod inside. Deep cries escape from my chest as you dig deeper and deeper and deeper. My high-pitched howls of despair echo throughout the lab, sending shivers up the spine of all the faceless, obedient lab assistants who have yet to learn how to block out the cries of suffrage. Just give them time. They will learn...

Why do you simply ignore my agony? Why? Why do you ignore my pain? Am I not just like you? As you cut, poke and pry—you do not look into my eyes. You look away as your knives of science cut away at my flesh, my organs, my heart, my liver, my lungs, my brain, my soul! You look away! Do you not look into my eyes because you are afraid that I am just like you? Are you afraid that what you see will haunt your very existence, as you and I are one? If you look into my eyes, are you afraid that you will see yourself—cut, bruised, beaten, burn, poisoned and left for dead.

I can see my reflection in the shiny blade of the knife that severs my body, my flesh, my veins. My brown eyes, once bright with life, now dull, sink deeply into the crevasses of my skull. My hair, shaved clean to expose the pale skin hidden beneath are now invaded by wires, electrodes, stitches, scars, dried stains of blood. My blood! The blood that you wipe clean from your white lab coats and your sterile tools of torture. Once blood, now your gases, your chemicals, your poisons, run freely through the mazes of veins lost within my body. Stripped naked, exposed to the world, my vulnerably spread out before you, I lie on the cold metal table in the center of your chambers as I wait until my body dies. Anesthetics are unheard of, for I am just a creature, a wild beast, a savage, in your eyes,. In the eyes of your society. Despite your harsh attempts to destroy me, you will

Where are we going?



Student Abstracts

FIELD GUIDE OF THE NOCTURNAL PRIMATES OF INDONESIA

KEELY SEVERN

With classification of primates becoming increasingly in-depth, especially with regards to their subspecific composition, I plan to collate information, design, print and distribute a full colour fold out laminated field guide. It will show behavioural and ecological factors of the species/sub species of the nocturnal primates of Indonesia. It will result in distribution of information on endangered primates in a format that is useful to both experts and the general public.

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IMPLEMENTATION OF A MULTI-AGE EXHIBITION FOR THE PROMOTION OF AWARENESS OF ENDANGERED PRIMATES AND THEIR FRAGILE RAINFOREST HABITATS

HANNAH PARATHIAN

This study aims to reduce the gap between researcher and the general public, making information about some of the world's most endangered primate species readily available in an accessible and inviting format. It will address the problem of rainforest destruction and the implications for the primate fauna that depend on them. The project aims to inform a multi-aged public audience of the hugely diverse species of primate populations that are declining, and their current status, through the implementation of a public exhibition. The exhibition will be displayed in a range of public locations in order to reach a wide audience. The exhibition will address the main threats facing today's extant primate species in the four biodiversity hotspots of the world.

It will consider what must be priorities for conservation (mainly habitat preservation) and what can be done to help stop the destruction. Information will be conveyed through the use of colourful and informative imagery with suggestions of how day

to day activities at work and at home directly influence rainforest ecosystems and what can be done to help stop the destruction. In addition, the sale of postcards and distribution of leaflets will raise funds and publicity for a number of small-scale charities supporting primate conservation.

The development of non-lethal, acoustic methods to deter chimpanzees



(Pan troglodytes)

Simon Boulter

The aim of this study is to pilot the possibility of using chimpanzee and leopard calls to deter chimpanzees from approaching a speaker in a captive situation. Should this be successful, the method could be put forward as a feasible deterrent to prevent chimpanzees from crop-raiding in the wild and would be worthy of field trials.

Previous methods proposed to prevent primates from crop-raiding include electric shock treatment and mildly poisoning food (Hadfield, 1999). These methods are totally invasive and can be very harmful to the primates. Although conservation agencies must take into account the feelings and livelihoods of local people, surely they need to come up with a repelling strategy that does not harm the wildlife in the process, particularly where protected and endangered species are involved.

**The expansion of palm oil plantations in
Central Kalimantan, Borneo,
and consequences for orangutan habitat
integrity evaluated using GIS**

Helen Buckland

Oil palm is a tree crop that is highly suitable for Indonesia's moist tropical conditions, and also has the potential to generate abundant export earnings. Consequently, Indonesia is one of the world's primary exporters of palm oil, and as worldwide demand increases, the amount of tropical forest destroyed to create land for plantations

is escalating. Borneo's peat swamp forests provide ideal growing conditions for the crop, but these areas contain great biodiversity, including large numbers of rare and endemic species such as the Bornean orangutan (*Pongo pygmaeus*). The rapid expansion of palm oil plantations has made a crucial contribution to the massive reduction and fragmentation of the orangutans' habitat.

This project will examine the issue of land-use conflict between the palm oil industry and the Bornean orangutan. Specifically, mapping of the Kotawaringin Barat District, Central Kalimantan, Borneo, will be conducted in respect to current

Endangered Spider Monkeys (genus *Ateles*) of Colombia: Distribution and Conservation

Alba Lucia Morales-Jimenez

According to the IUCN (2003) Colombian primates are under high human pressure resulting in the designation of one Critically Endangered species (*Ateles hybridus*), one Endangered (*Saguinus oedipus*) and 5 Vulnerable (*Ateles belzebuth*, *Aotus lemurinus*, *Saguinus leocopus*, *Callicebus ornatus*, *Lagothrix lugens*). *Ateles geoffroyi* and *Ateles hybridus* are priorities for research and conservation programs in Colombia (Defler et al., 2003; Defler, 2001; IUCN, 2003; Collins, 1999; Rylands et al., 1997; Mittermeier et al., 1989; Procarn-Inderena, 1986). Currently there is a lack of information about *A. geoffroyi* in Colombia and its distribution has not been confirmed in this country (Defler et al., 2003). There is only one report from Hernandez-Camacho & Cooper (1976) in Juradó, very near to the Panama Border.

It is very important to know the historical and potential current distribution of these species and to identify threats in order to establish priorities and potential areas for conservation and research (Pinto & Rylands, 1997). The objective of my research is to determine the distribution of genus *Ateles* in Colombia and to evaluate it in terms of conservation. I will collect locality information about the four of *Ateles* species from museum collections specimens, bibliography and interviews with researchers that have worked in Colombia. This information will be included in a Geographical Information System (GIS). I will use GARP analysis to predict the potential distribution. I will overlap distribution maps with the ecosystem maps. I will generate one map showing the historical distribution of each species and one map of probable distribution. I will identify potential and priority areas to conserve each species. This approach has been used in other groups of animals such as the spiny pocket mice

Bald Lemur Syndrome – Individual Differences in the C1 troop of *Lemur catta* at Berenty Reserve, Madagascar

Maria-Louisa Koppen

In 1999, the C1 troop of *Lemur catta* at Berenty Reserve showed hair loss of varying severity. This was termed ‘Bald Lemur Syndrome.’ Hair loss always occurs during the birthing season in September, where females are most badly affected. The cause of this temporary hair loss is currently unknown.

My project is part of a long-term study to investigate the potential cause(s) of temporary hair loss. My study will determine individual differences in the troop in terms of social behaviour, mating and feeding, prior to the onset of hair loss. I will compare my results with those of a previous study undertaken in September 2003. I will focus on females, particularly those in oestrus in order to set up mating records and establish some idea of male paternity. Analysis of diet will also be a major component of the project, again females will be the focal animals as they are most badly affected by the hair loss and this may have consequences for their offspring. I will also examine the relationships between individuals, while recording aggressive encounters and nearest neighbour to determine the rank of each individual. The project will allow the analysis of social factors and feeding as causes of ‘Bald Lemur Syndrome.’

The aim is to assist in addressing those factors that may be causing the hair loss. I am aware that my project will not provide a firm conclusion but will make a valuable contribution to addressing the problem, identifying the consequences and eliminating factors.

Parental Mimicking in Gorillas: Indications of social learning, implications for reintroduction efforts and links to evolutionary past.

Ester Murphy

The aim of this project is to examine social learning in gorillas; specifically, to develop an understanding of the degree to which young gorillas learn from their parents. While social learning in primates has been a topic of growing interest, difficulties in studying gorillas have meant that surprisingly little work done has been done in the area on this species (Caldwell and Whiten, in press). Studies on social learning in similar species, observations on zoo gorilla groups and interviews with keepers will be used to compile lists of behaviours to be observed in captive mother/daughter and father/son pairs. An emphasis will be placed on identifying and observing unique behaviours. Correlations will then be analyzed to assess how such factors as time spent with and watching the parent influences the behaviour of the youth.

All species and subspecies of *Gorilla* are currently on the IUCN's red list as at least endangered. Issues such as habitat destruction and hunting have severely affected *Gorilla* numbers (Plumptre *et al.*, 2003). Reintroduction efforts are one way in which conservationists have and are attempting to sustain wild gorilla groups. The relationship between the way that the gorillas are raised in captivity and how likely they are to adapt to a wild environment is currently unclear. An understanding of how and what gorillas learn from each other could enable keepers to produce animals that are better equipped to assimilate into a natural environment. It is hoped that this study will provide a foundation for this understanding.

Evaluating the Effectiveness of Eco-guard Patrols in the Conkouati-Douli National Park, People's Republic of Congo: A Census of Chimpanzee (*Pan troglodytes troglodytes*) and Gorilla (*Gorilla gorilla gorilla*) Populations

Patricia Davidson

As the African great ape population reaches dangerously low levels, it is becoming increasingly imperative to monitor their habitat, thereby ensuring current conservation measures are effectively protecting remaining chimpanzee and gorilla populations. The following project addresses great ape populations in the People's Republic of Congo and the effectiveness of eco-guard patrols in protecting their habitat. To determine the current status of chimpanzee and gorilla populations in the Conkouati-Douli National Park, I plan to conduct a census as part of an ongoing project with *Habitat Ecologique et Liberté des Primates*. Along five line-transects, the census will count individual animals, groups and their nests. The expected output will be a statistical estimation of great ape populations in the Conkouati-Douli National Park. This information will then be used to assess the effectiveness of eco-guard patrols in the region, using VORTEX (i.e. computer programme for population modelling designed by the IUCN SSC Conservation Breeding Specialist Group).

Reflections on through the looking glass

David Read

Many designs for enclosures in captive environments are faced with the moral dilemma of allowing the animals privacy whilst maintaining as much visibility for the public to observe the animals' behaviour as possible. Many exhibits through their design could be biased towards the public, as it is they who, partly by their entrance fee, pay for the husbandry of the animal. Chester Zoo's buffy-headed capuchin exhibit, as well as other exhibits in other captive environments, might act as a template for future enclosure designs. A follow up study, of one compiled by the author in his degree dissertation (Read 2003), on the original inside enclosure at Chester Zoo, would indicate whether the altered design had been successful in remedying the distracted and agnostic behaviour recorded in the earlier study. An in-depth study of the other similar enclosures in other establishments on their methods of tackling this duality of roles would present a strong case for a rethink in enclosure design. The creation of a standardised, cost and practically effective design for enclosures creating harmonious exhibits that address both the ethics and aesthetic issues of the public, and the animals in the enclosure, would equally create a positive visitor and resident experience. Coupled with talks, presentations and workshops to local schools on the future direction and philosophies of captive breeding with an idea to improve the, usually most disruptive, school children and the general public's attitude towards captive animal environments.

The Woolly Monkey Project:

A community-based research of the status of the primate community on Amacayacu National Park (Amazonas department, Colombia).

Angela Maldonado

Common woolly monkey (*Lagothrix lagothricha lagothricha*) is widely distributed throughout the Amazon, however is restricted to primary and continuous forest and 50% of its total distribution is represented by the Colombian population (Defler T. and Rodriguez-M. J., 2003). *L. lagothricha* is the most threatened species due to hunting that even at a subsistence level wild populations have been depressed to the point of driving it locally extinct (Peres, 1990). Additionally deforestation and illegal trade have decimated woolly monkey populations.

This project is a field research of the current conservation status of *Lagothrix lagothricha lagothricha* and other primates species such as *Callicebus torquatus*, *Alouatta seniculus*, *Saguinus nigricollis*, *Pithecia monachus*, *Saimiri sciureus*, *Cebus albifrons* and *Cebuella pigmaea*, present at Amacayacu National Park, Colombian Amazon. It will be carried out with the involvement of the six indigenous communities that have a permanent settlement and Amacayacu National Park (government representative) who co-manage the natural resources in the area. The aim of the project is to develop biological and socio-economic information that results in a community-based management and conservation plan for the primate community, focusing on woolly monkeys, the hunting targets in the Amazon (Peres, 1991), provid-

Investigating the Effectiveness of Locally Used, Non-Lethal Crop-Raiding Control Methods Around the Budongo Forest Reserve, Uganda

Kathryn Skelly

Non-human primate crop-raiding is becoming increasingly widespread as humans expand agricultural activities in rural areas. Various control methods have shown some levels of success in discouraging crop-raiders. There exists a need, however, for research that focuses on primate responses to crop-raiding repellents and deterrents. I propose an undertaking of such research around the Budongo Forest Reserve, Masindi District, Uganda. This project will focus on determining the effectiveness of locally used, non-lethal repellent and deterrent crop-raiding control methods, and will be the first to do so. Research will involve behavioural observations using instantaneous point sampling and timing primate responses to repellents and deterrents. Data from this research could show which crop-raiding control methods are most effective, and could help establish a good base for the development of non-lethal, cost-effective methods to control crop-raiding.



Determinants of Maternal Behaviour in Captive Gorillas (*Gorilla, gorilla, gorilla*)

Naomi Cohen

Gorilla species throughout Africa are faced with rapidly decreasing populations placing them at risk of extinction. Conservation efforts to maintain healthy populations in the wild are supported by the breeding of gorillas in captivity with the aim of maintaining viable self-sustaining populations and

This project will investigate the influence of captive conditions on gorilla maternal competency. My research aims to identify correlations of environmental stimuli, group composition/structure and life histories with the expression of good mother caring. The identification of variables associated with adaptive and maladaptive patterns in captive maternal behaviour will result in the promotion of improved captive management strategies for successful mother-infant rearing.



Activity and human interaction levels of the bonnet macaque (*Macaca radiata*) at Alagarkoil Temple, Tamil Nadu, South India

Rachel Miller

It has been shown that provisioning and interaction with macaques by humans can increase macaque population sizes, and can cause changes in a group's demography and behaviour. Aggression levels of macaques have also been recorded to increase on provisioning. It has recently been observed that the bonnet macaque is increasingly interacting with humans. High levels of interaction and provisioning will enhance the chances of bonnet macaques showing changes in their behaviour, as many species of macaques have appeared to do. This may eventually lead to the bonnet macaque becoming a pest to humans and reaching population levels that require control. This project will assess the levels of human-macaque interactions at Alagarkoil Temple, Tamil Nadu, India. The study will produce data on the level and type of interactions the macaques have with humans and will show who is encouraging the interactions to occur. It will also show the time macaques spend on activities throughout the day, allowing comparisons to be made against other studies that detail the behaviour of groups that do not interact with humans.

2003/2004 MSc student titles and contact information

Name	Project idea or area of Interest	Contact Information
Mandy Archer	Comparison of foraging in aye-ayes and striped possums	planetmandy2003@aol.com
Simon Boulter	The development of non-lethal, acoustic methods to deter chimpanzees (<i>Pan troglodytes</i>) from crop-raiding. Are bioacoustics the answer?	siboulter@hotmail.com
Helen Buckland	The expansion of palm oil plantations in Central Kalimantan, Borneo, and consequences for orangutan habitat integrity evaluated using GIS.	helen@unblue.co.uk
Cara Buckley	Survey and Census of <i>Hylobates agilis albibarbis</i> in Unprotected Primary Peat Swamp Forest: Sebangau Catchment Area., Central Kalimantan	CaraBuckley123@hotmail.com
Naomi Cohen	Determinants of Maternal Behaviour in Captive Lowland Gorillas (<i>Gorilla gorilla gorilla</i>)	Ne_cohen@hotmail.com
Ally Crichton	A Multifaceted Approach to Increasing the UK Public Awareness of the Least Known Great Ape Species: the Bonobo <i>Pan paniscus</i>	AllyCrichton@hotmail.com
Patricia Davidson	Evaluating the Effectiveness of Eco-guard Patrols in the Conkouati-Douli National Park, People's Republic of Congo: A Census of Chimpanzee (<i>Pan troglodytes</i>) and Gorilla (<i>Gorilla gorilla</i>) Populations.	PLDavidson20@yahoo.com
Melissa George	The influence of environmental enrichment on diurnal and nocturnal behaviour of <i>Mandrillus sphinx</i>	Curiousgeor@aol.com
Megan Hull		Lunalea@hotmail.com
Maria-Louisa Koppen	A study of the bald ring-tailed lemur group at Berenty, Madagascar	Maria_Koppen@hotmail.com
Angela Maldonado	Release and Follow-up of A Group of White Faced Howler Monkey (<i>Cebus albifrons versicolor</i>) at Magoalena Medio-Colombia	llugens@yahoo.co.uk
Anne Miehs	Are all slow lorises slow? Using locomotor behaviour to resolve problems in phylogeny	Anne@2sheds.de
Rachel Miller	Activity and human interaction levels of the bonnet macaque (<i>Macaca radiata</i>) at Alagarkoil Temple, Tamil Nadu, South India	Guernseygirl100@hotmail.com
Alba Lucia Morales-Jimenez	<i>Ateles</i> genus Distribution: Implications for its Conservation	Albalu@hotmail.com
Ester Murphy	Parental Mimicking in Gorillas: Indications of social learning, implications for reintroduction efforts and links to evolutionary past.	Zoofiend@aol.com

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productive rice was ever grown there, in spite of the removal of at least half a million hectares of primary peat

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Hannah Parathian	Implementation of a Multi-age Exhibition for the Promotion of Awareness of Endangered Primates and their Rainforest Habitats	HannahParathian@yahoo.co.uk
James Pattenden	Resolving conflict between Bonnet Macaques (<i>Macaca radiata</i>) and humans in Tamil Nadu, India	Jimboddun@yahoo.co.uk
David Read	Reflections on through the looking glass	DJRead@hotmail.com
Justin Saroyan	Assessment of Conservation Value of Succulent Plants to Ring-tail Lemurs (<i>Lemur catta</i>) in Endangered Spiny Forest of Southern Madagascar	jp009@jps.net
Keely Severn	A Field Guide to the Nocturnal Primates of Indonesia	KeelySevern@hotmail.com
Kathryn Skelly	Investigating the Effectiveness of Locally Used, Non-Lethal Crop-Raiding Control Methods Around the Budongo Forest Reserve, Uganda.	Katie.Skelly.03@alum.Dartmouth.org
Lindsay Morse	Genotyping DNA samples from a population of <i>Sciurocheirus alleni camerunensis</i> using microsatellite loci.	linnymo@yahoo.com
Emily Mertz	Pilot Survey of <i>Proithenus diadema diadema</i> in Betampona Natural Reserve, Madagascar	mlemertz@yahoo.com
Clair Tucker	The Use of Media in Pre-school Zoo Visit Support	Clair_Tucker@yahoo.com
Yvonne de Jong	Distribution and abundance of Patas monkeys (<i>Erythrocebus patas</i>) in Kenya and their use of human infrastructure	Yvonne@wildsolutions.nl
Barbie Dugan	Drill survey in Nigeria	02064431@brookes.ac.uk
Jillian Hunt	Maternal rejection in primates	02128116@brookes.ac.uk
Kok Kwang Louis Ng	Myanmar gibbon survey	02064422@brookes.ac.uk
Clare Short	Genetics of gibbons in Thailand	02064161@brookes.ac.uk
Neeltje Vanlavieren	Primate sanctuaries	02064152@brookes.ac.uk
Jayne Poulter	Proboscis monkey vocalisations in Malaysia	01271946@brookes.ac.uk

