

Australasian Primatology

Editor's Report

This is an issue of the journal with quite a few articles on a variety of different topics. Most of them have come via the Internet and I apologise if some of you have read them before. As we have not had a flood of papers contributed to the journal, I decided that passing on this type of information is a valuable contribution that the Society's journal can provide to its members. I trust that you will agree with this decision. In addition to the Internet articles are two submitted short articles by Professor Arnold Chamove and Ms Penny Harper that should be of interest to the members.

The Assistant Editor has also prepared an editorial comment which appears in full at the end of the journal. However, here is an abstract.

Primate species in almost all habitat areas are under threat. Any process that traverses wilderness areas contributes not only to habitat destruction, but permits easy access to previously inaccessible areas. This contributes to poaching for bushmeat and the pet trade, logging and the creation of new settlements and plantations. One single roadway through deep forest can compromise an extremely large area. Gunung Leuser National Park in Northern Sumatra covers 2.6 million hectares and is one of the world's richest tropical rainforests, with 3500 floral species, 130 mammal species, 325 bird species, as well as reptiles, amphibians and fish. The Ladia Galaska highway project proposes to build three major roads which will go through the protected forests and Leuser National Park. There are however, legal challenges being prepared to halt the project and protect one of the last refuges for the Sumatran Orang utan.

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Fire as Chimpanzee Enrichment

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Abstract

Five wild-born socially-housed chimpanzees responded to fire with excitement the first day but with little interest on subsequent 3 days, suggesting that in itself it provided little potential for enrichment.

Introduction

Chimpanzees (*Pan troglodytes*) at the International Medical Research Centre of Franceville (CRMF) in Gabon live in social groups of 5 in large enclosures or volliere 25 by 20 metres. Most of the animals were wild born, but they were captured in infancy and then confiscated before being brought to CRMF. This type of enclosure has little for the animals to do and is made of concrete and steel, so enrichment was proposed. This article is part three of a series of studies investigating varying types of enrichment which had at its theme unpredictability (see also Chamove, 1989 and 1996).

Method

One improvement idea was to introduce the chimpanzees to fire. Wild savanna chimpanzees have been exposed to fire for millions of years, caused by lightning sweeping the grasslands during the long dry season or, more recently and more regularly, as fires set by humans to clear grassland. While there has been much research on ape tool use, as well as speculation on the importance of fire as a tool in the evolution of human culture, I could find no observations on the responses of any ape to fire prior to this study. Russon and Galdikas report fire-making in rehabilitant orangutans (1993) and Anne Russon, a psychologist in Toronto, says she has seen captive (rehabilitate) orangutans using fire, specifically to light cigarettes. -I saw no fire-making in chimpanzees when given matches at CRMF, although several were regular cigarette smokers.

On four consecutive days, small fires of hardwood were constructed and lit in one of the large chimpanzee enclosures. On the first day, short, three-centimetre lengths of wood were used, and on the remaining days, the lengths were increased to six centimetres. There were two sticks per chimpanzee. After watching the lighting procedure and when the fire was well lighted, the chimpanzees were released into the large outdoor enclosure. On the first two days the animals were not released until the full length of the wood was burning. This was to initially discourage the chimpanzees from handling the burning sticks, a decision made by the CRMF management committee. On the last two days only, about two-thirds of the burning sticks were left outside the fire so that the chimps could hold the burning sticks by the unburnt parts should they wish. On those two days familiar food items, banana and sugar cane, were placed into the fire.

Results.

The first day, there was great excitement upon release, and the chimpanzees circled the fire, keeping about four metres away from the blazing pile. After only just over a minute, the dominant male ran past the fire, hitting the pile of burning wood with his hand and scattering most of the burning sticks. A few of the animals then approached to less than a metre distance, visually inspecting the remaining burning sticks. After about two minutes, one male chimpanzee picked up a burnt and still slightly-smoking stick, sniffed it, and dropped it. He then picked up a piece of burned

charcoal that had broken off and ate it. Subsequently three animals excitedly hit at the burning sticks. After three minutes, one could still hear many pant-hoots and much excitement, and dominance displays were being regularly shown. At four minutes, a female used a cold stick to poke at and break up what remained of the fire. At about five minutes, a female chimpanzee raked together smouldering embers with a burnt stick, another slapped at a smoking stick, and a male had an erection as he hit at a cold stick twice with his hand. The rest carried away sticks and chewed them, leaving nothing at the original fire location.

On day two, there was less initial excitement upon release. After one minute, one of the chimpanzees poked at the fire with a length of sugar cane. The wind shifted, and the animal jumped back as if surprised. At two minutes, another removed a burning stick using sugar cane (there were no other nonburning sticks available), watched it burning for a few seconds, then hit at it with her fist until the flames disappeared, after which the smouldering stick was abandoned. At four minutes, most of the chimpanzees sat at a considerable distance from the fire, showing little interest, yet the dominant animal watched it continuously. At five minutes, one chimpanzee approached the fire but jumped away when a piece of the wood sparked. At seven minutes, the dominant animal removed a stick by an unburnt end and then poked it back into the flames. At eight minutes, a female appeared to step on a hot ember but was not visibly upset. By 16 minutes, there was no interest in the fire, although it was still burning. At 22 minutes, one animal raked through burning embers with sugar cane.

On days three and four, the chimpanzees showed little interest in the fire. They chewed burned sugar cane and banana retrieved from the fire but did not put anything into the fire to burn.

We used fire as it is a

- (a) natural tool
- (b) found in the wild
- (c) that wild chimps would encounter regularly, and
- (d) was used by primitive man.

Conclusion

Consequently it might be a tool chimps would find a use for. Also it was something we thought there might have various uses by the chimpanzees, unlike most enrichment devices which are used for one thing only. We thought they might act like humans do around fire, watch it, poke at it, put wood into it. And we hoped they would use it to cook food. We put food into the fire so that they might learn that extracted, cooked food was 'better' or different, and that might encourage them to put food into the fire themselves. We did not expect them to run from it as few animals run from fire. It clearly was not distressing to them.

Below is my communication with Anne Russon.

Fri, 20 Oct 1995 01:48:16 +1300: I have several incidents of rehab. orangutans using, moderating, and once trying to make a fire. The fire-making incident is described in detail in an article (Russon & Galdikas; 1993); other incidents include using fire to light cigarettes, blowing on burning mosquito coils then using the burning tip to write with, once (reportedly) trying to torch the dining hall with a burning stick, and just exploring the 'hotness' of a burning mosquito coil. Sue Savage-Rumbaugh has video of Kanzi using a cigarette lighter to actually light a fire. Anne Russon Psychology--Glendon College, Toronto, Canada; ARusson@erda.glendon.yorku.CA

Acknowledgments

I thank Bob Cooper, Sian Evans, Nigel Orbell, and Anna Feistner for advice and encouragement during those hot days of 1987, and for helping me convince the administration that "fire" was worth trying.

References

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“YOU CAN COME IN APRIL”!

Penny Harper

These words on my computer screen produced a mix of excitement and sheer panic! They were from Debby Cox, the Director of the Ngamba Island Chimpanzee Sanctuary in Uganda. She was replying to my plea to come as a volunteer to help with the sanctuary and any orphans that may need care. I only had about one month, to organise 3 months off work, get vaccinated against all the diseases of the tropics that I could, get equipment together, Oh and obtain some air tickets as well! All this completed, the vaccinations just in time, I arrived in Uganda not really sure of what awaited me!

Fortunately, Pauline Osborn was there already. And I knew her, having staying with her during the previous APS Conference in Canberra. So I had a friend to look to, besides Debby. I was greeted at the airport by Monty, the second in charge of the sanctuary and person in charge of the volunteers. She was very friendly and took me to Debby's house/office, which is near the pier at Entebbe.

Pauline was there in the garden, which was soon to become my “office”. She was already caring for Okech, a 2 year old male chimp orphan and I became his “second mum” in tandem with Pauline. The first couple of days were spent settling in. Pauline was able to show me the ropes of getting around in matatus to Kampala, and risking my neck on the back of boda-bodas. (matatu = small minibuses, crammed full of people, with 2 speeds, stopped or flat out; boda-boda = small motor-bike with a rider touting for passengers on each corner).

Photo by Simon Rainsford



I was very grateful for her guidance for we soon started a roster of 5 days on, 5 days off, when we generally did not have time off together. When we were “on” it was 24 hrs being a substitute mum, sharing a separate room behind the house at night and in the garden during the day. Okech was fortunately quite well, although he was more tiring than the most hyperactive child you can imagine! Between around 6am and 7pm we were constantly trying to occupy him. He would start the day by walking up your body, (yes, we shared a bed with our chimp baby!) wanting a cuddle. If we were lucky this was nearer to 6 am than 5am. Cuddling was fine, we

could almost stay half asleep....but we knew it would not last...but turn into jumping on us wanting tickles and fun! Then that would turn into climbing up the mosquito net, so we would then have to wake up and jump up and take the net down and hide it away. Then it paid to change our pillow to the other end of the bed because by this time he had progressed to running around the room, climbing on furniture and climbing up onto a high bookshelf and leaping off it onto us lying on the bed!!

About 6.45am Debby would appear at the window with his milk and banana, and our welcome cup of tea. On a good day he would sit quietly drinking his milk while we drank our tea, but otherwise he was restless and it was time, out of self preservation, to get dressed and take him out to the garden.



Photo by Simon Rainsford

There were 2 trees with ropes with a plastic chair and table set. He would either sit on the table and eat, or if you were really lucky, he would climb up a tree and let you drink your tea in peace. Then breakfast would arrive for the two of you, and if your luck was still in, he would let you eat yours while he ate his. The rest of the day was spent trying to keep him occupied, with games, painting, food, and activities. If he was not amused, he would keep himself amused by getting into the office and its computers, or into the house with its food and things to break!

Washing was always a good pastime; we did our washing in plastic buckets or basins and the garden tap. He would sit on the table and try to do the washing with us. It was sometimes a trial to stop him eating the soap powder, apes seem really attracted to the taste, for some reason. Mind you, after the sheets and towels were on the line, he did also like pulling them off again!! We used towels to mop up urine off the floor, and to cover our beds to absorb the urine and sometimes diarrhoea with later orphans who had “runny tummies”.

Also the house had 3 resident dogs, 2 of which were great babysitters. The two younger dogs would have great active games with Okech, who did bite them unmercifully. But they were very good and did give the human carers a bit of a break. The Ugandan staff, the housekeeper, Betty and the gardener, Isaac, were both great with all the chimp babies. Okech would share their meals! I don't think they had much choice! He invited himself !

But after his 3 mths quarantine period was over, and his health checks, he was taken over to the Ngamba Island Sanctuary. Here Pauline gradually integrated him with the infant group of chimps on the island, (There are 2 groups on the island; the adult group of 19, and an infant group of 17 –then). Fortunately Moa, the brash alpha male in the infant group, decided he liked this “little brat”and Okech settled in well. Well after getting over leaving his foster mum's apron strings!

Then we got an influx of female orphans, confiscated and brought to the house. The next one was a 4 yr old female, Ndykera. She proved to be the most difficult, or so the other carers said. I had no problem with her as, for some reason, she decided from first seeing me, that I was “IT”and she

jumped into my arms and clung on. She ended up biting every other carer quite badly, as she would not accept any “telling off” from anyone else. If someone else told her off, she would attack and bite them, but if I did, she would whimper and leap into my arms and bury her head in my shoulder.

She was also quite sick, with parasites and bad diarrhoea. She did not recognise food. And would only really eat passionfruit and prey on spiders. All the trees and bushes are covered in spider webs and she was absolutely obsessed with picking them out and eating them, eggs and all. We spent many hours trying to get her to eat whatever we could think of. She seemed very obsessive, would perhaps eat something one day and would only really eat that, but then next day would not eat it anymore. Getting the medicine into her to fight the parasitic disease was also a worry. We ended up injecting it into the passionfruit, which worked in the end. Also any separation from me caused much distress on her part, (and stress on the part of the other carers!). So for the last 10 days of my time there, I did not leave her at all. That meant no showers, or going into the house for meal at night, but it did settle her and with her eating better, taking her medicine, she was well when I left.

We also received an 18mth old female, Nakuu, who had been confiscated from an army officer. She was quite well and a real honey. She was good company for Ndykera, although we did have to watch that Ndykera did not get too rough with her. But she was a good eater, which was a very good example for Ndykera to learn from.

With all these two babies, plus the news of another to be obtained from Tanzania, Debby put a call out for more carers. So Sandra, a Swedish girl arrived, and we all moved from Debby’s house to the next door Zoo. This is a lovely, off limits, area where some bandas (round huts) sit on the shores of the lake. There are very high trees, a grassy area, pit latrine and cold shower.

Ndykera soon took to climbing right up high in these trees and there were also a couple of smaller trees, which were easy for the 2 “littlies” Because we had not moved long before Nanni arrived. She was about 12 mths old and much darker and more hirsute than the other 2. She had a really good stropy nature so she could hold her own with the older ones. She took over Nakuu from Ndykera and made me hope that it would not be too long before Ndykera could get well and join others more her own age on the island.

We saw one small snake, which entranced Ndykera as it, moved out from the bottom of the tree to go to the surrounding grass. There was also the story told us about the python that lived in the high grass around the area, it had once taken someone’s dog!!!! Fortunately we did not meet this creature, but I was careful where I trod when I went out of the hut at night!

Ndykera continued to be difficult for the other carers and badly bit Sandra on our first night at the bandas. None of the new lot of volunteers coming had any experience with young chimps (how many people have?). So Stany, the head keeper of the Sanctuary was paid to come to the bandas and take Ndykera over from me when I left. This really took a lot of worry off my mind as I was getting very concerned what would happen when I left. Pauline was due to leave shortly after me and we fortunately had time to go on a trip to the Bwindi Impenetrable Forest National Pk. together. So, Stany arrived, and I had to trick Ndykera into the hut with him and rush into a waiting car to be driven away. My last memory is hearing her screaming....She apparently broke out of the hut, but fortunately went and sat on the lap of a new carer. Stany was able to become “alpha male” for her and win her respect. I hear from Sandra that Ndykera has since gone out to the island and joined the infant group there. This is a very satisfying thought.

After we both had finished our time as a carer, Pauline & I went on a full day's bus trip to see the gorillas. After a bad night of being broken down in the middle of the night, we were taken by a passing priest to a hotel. The next day we took "special hire" car the rest of the way. Unfortunately I was not well enough to actually do the gorilla trekking, but Pauline came back, exhausted, filthy and ecstatic!! It was a very beautiful area to stay and we returned to the hotel by car again. Stayed another night there with yet eggs again!! We took a different bus back, and that trip was much better. The bus driver on the way up had bragged that he had hit 2 goats and how many children did not get hit was a miracle!

Whenever the bus stops, hawkers come onto the bus with greasy looking kebabs of some sort of meat, drinks, and all sorts of food. Cooked eggs were the safest, but after a while became boring. There were also small sumoses, some filled with meat which we avoided. However we could sometimes get ones filled with vegetables which we ate.

Shortly after returning from this trip I had to leave Uganda for the horrific flight home. My only regret was that I had not spent enough time on the Island Sanctuary. I had made 3 trips there, but only for very short times. However I was looking forward to getting home, there had been some health issues that made me keen to get home. I am still waiting on getting another blood test to see if I have got rid of the Bilharzia.....

But Uganda is a beautiful country, although I did not get to see much of it, I did get to see the rapids near the source of the Nile. The people are really very friendly and they do much with so little and the waste of western culture is what has hit me most on my return...

It was certainly a fantastic experience to finish off my overseas travelling.

Third of primates 'risk extinction'

Alex Kirby

BBC News Online environment correspondent

One-third of the world's primate species now face a serious risk of extinction, according to a report by an international group of conservationists. There's some good stuff going on, especially in Brazil and Madagascar.

Russ Mittermeier

They say the number of threatened species has risen sharply in the last three years. Primates living in two south-east Asian countries are said to be especially endangered. But several species are judged a little safer than they used to be. The report is entitled *Primates In Peril: The World's Top 25 Most Endangered Primates*. It is published by Conservation International (CI) and the primate specialist group of IUCN, the World Conservation Union.

Vietnamese crisis

The authors say the numbers of primate species and sub-species classified as either endangered or critically endangered have risen nearly 63%, from 120 to 1995, since the publication of an earlier report at the beginning of 2000. Primates include apes, monkeys, lemurs and some lesser-known species. Scientists say they are our closest living relatives. Nearly 45% of the world's

most endangered primates live in Asia.

The president of CI, Russ Mittermeier, said: "Of particular concern is the situation in Vietnam and China. With several primates now numbering only in the dozens or low hundreds of individuals, Vietnam is at risk of undergoing a major primate extinction spasm within the next few years if rapid action is not taken. Twenty per cent of the top 25 primates are located in Vietnam, with another 16% from China and 12% from Indonesia."

He told BBC News Online: "Human pressures are more intense in these places; hunting in particular, both for meat and medicinal purposes, is hammering these animals."

Bigger picture

Of the 25 species listed, 23 are found in the world's "biodiversity hotspots". These are regions identified by CI which are home to more than 60% of all terrestrial plants and animals, although together they cover only 1.4% of the Earth's land surface. Six hotspots are judged the highest priorities for the survival of the most endangered primates. They are Indo-Burma, Madagascar, Sundaland (the islands of Sumatra, Java and Borneo), the Guinean forests of West Africa, the Atlantic forests of Brazil and the western Ghats/Sri Lanka.

Bill Konstant of CI, co-author of the report, said the list of the top 25 was just the tip of the iceberg. He said: "For each primate on it, any one of several other equally endangered species might have been chosen instead."

Praise for Brazil

The main cause of the primates' decline, the report says, is habitat loss caused by the clearing of tropical forests. It calls hunting "an insidious and major threat, especially in Africa and Asia. Once done mainly for subsistence purposes, it has now taken on a major commercial dimension." But the capture of animals for the pet trade and medical research "have become lesser concerns". The report says primates are important for ecosystem health, because they disperse fruit seeds and the remains of other food they eat.

"It's important to mention that it is not all doom and gloom," Russ Mittermeier told BBC News Online. "There's some good stuff going on, especially in Brazil and Madagascar – and some of the species that were on the list last time have been taken off because they are doing better and some that are still on the list are in fact getting a lot of attention. The technologies and the manpower are there to do it; what we need is an order of magnitude increase in resources so we can do it in many more places."

The top 25 most endangered primates:

- Greater bamboo lemur (Madagascar)
- Perrier's sifaka (Madagascar)
- Silky sifaka (Madagascar)
- Black-faced lion tamarin (Brazil)
- Buff-headed capuchin (Brazil)
- Northern miqui (Brazil)
- Miss Waldron's red colobus (Ghana and Ivory Coast)
- Roloway guenon (Ghana and Ivory Coast)
- Tana River mangabey (Kenya)
- Tana River red colobus (Kenya)

- Sanje mangabey (Tanzania)
- Natuna banded leaf monkey (Indonesia)
- Pig-tailed snub-nosed monkey or "simakobu" (Indonesia)
- Sumatran orang-utan (Indonesia)
- Delacour's langur (Vietnam)
- Golden-headed langur (Vietnam)
- White-headed langur (Vietnam)
- Grey-shanked douc (Vietnam)
- Tonkin snub-nosed monkey (Vietnam)
- Yunnan snub-nosed monkey (China)
- Guizhou snub-nosed monkey (China)
- Eastern black-crested gibbon (China and Vietnam)
- Mountain gorilla (DR Congo, Rwanda and Uganda)
- Cross River gorilla (Nigeria and Cameroon)

Monday, 7 October, 2002

The recent report released by Conservation International (CI) and the Primate Specialist Group of IUCN was finalized at the recent IPS meetings in Beijing. It is a revision of their previously released "The World's Top 25 most Endangered Primates

The following is an excerpt from the introduction of the report.

The World's Top 25 Most Endangered Primates- 2002

"In January 2000, Conservation International released a report entitled The World's Top 25 Most Endangered Primates, a list of threatened prosimians, monkeys and apes whose survival beyond the present century will depend heavily on actions taken now by our own species. The impetus for the original report was two competing realities, one being the lack of any documented primate extinctions during the 20th century-a remarkable record in light of recorded losses among other groups of animals during the same period-and the other being the results of an assessment that identified approximately 120 of the world's estimated 638 types of primate as being in serious danger of extinction within the next few decades. The top 25 that we named in 2000 were merely the tip of the iceberg.

"Two years later, we have decided to release a new report based upon updated information, especially with regard to Asian primates. Since the original report, the Species Survival Commission (SSC) of IUCN- The World Conservation Union launched a program of ongoing conservation status assessments for the world's threatened plant and animal species.

As many experts had feared, the number of species threatened with extinction continues to rise despite our best efforts to ensure their survival. This new report considers preliminary results from primate workshops and assessments that have recently been conducted in India, Indonesia, Madagascar and Vietnam, and that recommend listing as many as 195 primate species and subspecies as endangered or critically endangered.

"According to the IUCN, a primate is

1. Endangered (EN) if the extent of its occurrence is estimated to be less than 1,930 mi (5,000 km²), if its population is estimated to number less than 2,500 individuals, and/or if

quantitative analysis shows the probability of extinction in the wild to be at least 20% within 20 years or five generations.

2. Critically Endangered (CR) if the extent of its occurrence is estimated to be less than 38.6 mi (100 km), if its population is estimated to be less than 250 individuals, and/or if quantitative analysis shows the probability of extinction in the wild to be at least 50% within 10 years or three generations.

These two categories represent what we refer to as the most endangered species, at significantly greater risk of extinction than those evaluated by IUCN and categorized as vulnerable, near threatened or not at risk. New assessments suggest that, from approximately 20% only a few years ago, we should now consider more than 30% -close to one in every three- of all primates to be seriously threatened with extinction. The increase from 120 to almost 200 largely reflects new information available from Asian countries. Therefore, it is not surprising that Asia now accounts for almost 45% -only slightly less than half- of the world's most endangered primates, or not many less than the three other major regions where primates occur- the Neotropics, Africa and Madagascar- combined."

The full report is available at:

http://www.conservation.org/xp/CIWEB/newsroom/press_releases/primates_kit/primates_report.pdf

Following are the first three summaries of the Top 25 most endangered species

Greater Bamboo Lemur (*Hapalemur simus*)

Madagascar

Photo Link: <http://www.primate.wisc.edu/pin/ci/ci01.html>



Credit: Ken Glander/Duke University
Copyright: Ken Glander/Duke University
Source: Conservation International

As its common name implies, the greater bamboo lemur is the largest of Madagascar's bamboo-eating lemurs. Sub-fossil remains confirm that it was once widespread throughout the island nation, and occasional reports of its existence still filter in from different regions. However, the best evidence suggests that *Hapalemur simus* has largely vanished from most of its former range and only a few relatively small populations have been documented thus far in the southeast. Hunting and habitat destruction are the presumed causes of its historical disappearance. Like the similarly threatened golden bamboo lemur (*H. aureus*), this species subsists largely on cyanide-laden giant bamboo - apparently without suffering any ill effects- but prefers to eat the basal shoots and pith while the golden bamboo lemur prefers leaves and other plant parts. Due to their dietary similarities, it is not unusual to find the two species inhabiting the

same forests. Both receive protection in the national parks of Ranomafana and Andringitra. Primatologists estimate that perhaps a thousand or more individuals inhabit the Ranomafana region, but not all of them reside within the boundaries of the national park.

Opportunities exist to extend protection to lemur populations in neighboring forests, as well as to develop a fairly long corridor of protected forests between Ranomafana and Andringitra, within which it is presumed other greater bamboo lemur populations will be found, as well as those of the golden bamboo lemur and the endangered Milne-Edwards' sifaka (*Propithecus edwardsi*).

Relevant Citations:

Wright, P.C., Daniels, P.S., Meyers, D.M., Overdorff, D.J., and Rabesoa, J. 1987. A census and study of *Hapalemur* and *Propithecus* in southeastern Madagascar. *Primate Conservation*. Vol. 8, 84-88

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Tan, C.L. 1999. Group composition, home range size, and diet of three sympatric bamboo lemur species (Genus *Hapalemur*) in Ranomafana National Park, Madagascar. *International Journal of Primatology*. Vol. 20(4), 547- 566.

Perrier's Sifaka (*Propithecus perrieri*) Madagascar

Photo Link: <http://www.primate.wisc.edu/pin/ci/ci02.html>



Credit: Stephen Nash
Copyright: Conservation International

The all-black Perrier's sifaka is known to inhabit a relatively small area of dry forests in extreme northern Madagascar, where it receives protection in only two special reserves, Analamera and Ankarana, but its continued presence in the second is questionable. Very little is known about this lemur's habits in the wild, except that it occurs in small groups of from two to six individuals which range over an area of up to 30 hectares (almost 75 acres), and it eats a variety of leaves, unripe fruit, stems and flowers. Like much of Madagascar's wildlife, Perrier's sifaka is threatened by slash-and-burn agriculture or tavy, timber-cutting for charcoal production, fire to clear pasture for livestock and, most recently, small-scale mining for gemstones. This may very well be the rarest, least studied and most endangered of all Madagascar's sifakas. The last published study of wild populations was one done by primatologists Mireya Mayor and Shawn Lehman from the State University of New York at Stony Brook in 1998 with support from Conservation International. While it is locally taboo or fady to hunt this species within its restricted range, old beliefs are yielding to new ones and putting larger-bodied lemurs such as this one at greater risk.

Relevant Citations :

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Silky Sifaka (*Propithecus candidus*)
Madagascar

Photo Link: <http://www.primate.wisc.edu/pin/ci/ci03.html>



Credit: Mireya Mayor
Copyright: Mireya Mayor

In physical appearance, this completely white animal contrasts greatly with the previously described, all-black species, but in terms of geography they are essentially neighbors and in terms of conservation status they are very similar indeed. What we know about the ecology and behavior of the silky sifaka has come from short-term research efforts conducted in the mountainous forests of Marojejy, which was recently elevated from nature reserve to national park status. Marojejy is located in far northeastern Madagascar. It and the Anjanaharibe-Sud Special Reserve are the only officially protected areas in which Perrier's sifaka occurs, but their forests are not immune from habitat disturbance and hunting that accompanies encroaching human settlements. As a result, the remaining silky sifaka population, which is estimated at perhaps only several hundred and no more than a thousand individuals, continues to be at high risk of extinction. Field studies conducted by students from the State University of New York at Stony Brook and Cornell University have successfully habituated a few sifaka groups at Marojejy, where Cornell researchers hope soon to begin population censuses and behavioral research with support from the Margot Marsh Biodiversity Foundation.

African great apes
Out in the forest, something stirs

Oct 17th 2002

A species of ape unrecognised by science may exist in the Congo A hundred years ago, on October 17th 1902, Oscar von Beringe, a German explorer, "suddenly noticed a troupe of large black monkeys", while climbing a volcano in eastern Congo. "We were able to shoot two of these monkeys", he wrote, "which hurtled down the gorge of the crater with an incredible rumble." That von Beringe then found himself "unable to classify the monkey" is not surprising. He was the first European to come into contact with a mountain gorilla.

Gorillas, mountain and otherwise, are rare now. Poachers kill the adults for their meat, and sometimes to make knick-knacks for foreigners. Youngsters are taken from the wild to adorn private zoos. But even after a century, that diminished population may yet hold a surprise.

In 1908 two apes were shot near a place called Bondo, in northern Congo. Their skulls (and two others found in local dwellings) had the crests characteristic of gorillas, but they were unusual enough for taxonomists of the time to classify them as a separate subspecies. Since then, no further

specimens of this subspecies have been recorded. Four years ago, Karl Amman, a Swiss wildlife photographer, took up the quest to rediscover the missing gorillas. What he has found is not yet clear. But it might, just, be a new species of ape.

Mr Amman's expeditions into the forest of Bili, near Bondo (the latest of which, accompanied by this correspondent, has just returned from the bush) have not seen a live ape. But they have found a lot of ground nests. Such nests are characteristic of gorillas. Chimpanzees, the other species of ape that lives in this area, prefer to sleep in trees. Other spoor point to the presence of gorillas, too. Faeces in the area resemble those of gorillas, as does the way that saplings are broken down around nest sites. As if to clinch it, Mr Amman has also found another crested skull lying around. Some of the nests, however, have hairs in them. And hairs contain DNA. That yielded a surprise. The DNA looks like that of a chimpanzee, not a gorilla. Moreover, a re-interpretation of the skull Mr Amman found has pronounced it to be that of a chimp, albeit a crested one. And analysis of the faeces suggests that whatever dropped them was eating a fruit-rich diet. That is also characteristic of chimps. What Mr Amman seems to have found is a chimpanzee that behaves like a gorilla.

Local hunters' reports point to something unusual, too. Bondo's hunters do not distinguish between gorillas and chimpanzees. Instead, they divide the local apes into "tree-beaters" and "lion-killers". These two types look the same, and both flee hunters. But lion-killers, say the hunters of Bili, are much bigger-and are difficult to kill, even with a poisoned arrow. Several enormous chimp footprints seem to confirm the hunters' reports of an out-sized chimp. And, in a photograph recently obtained from a hunter, the body of one chimp appears to be about 1½ metres tall (five feet or so). Indeed, to nest confidently on the ground in forest thick with lions and leopards, the lion-killers would probably have to be of such a size.

Whether such lion-killers really are a distinct population, corresponding to Mr Amman's ground-nesting "chimpanzees", and whether they are so different from other great apes that they constitute a separate species, remains to be seen. But it is surprising that in the early years of the 21st century such a discovery could even be contemplated. Apparently, the jungle has not given up all its secrets yet.

PROFILE: IAN REDMOND: An 11th-Hour Rescue for Great Apes?

John Bohannon

A globetrotting conservation biologist is spearheading a last-ditch effort to save these embattled primates from extinction--but the clock is ticking

LONDON--Ian Redmond was grief stricken when he heard last May of Muraha's murder. He first met her 25 years ago, just 2 days after her birth in Rwanda. They grew so familiar that Muraha had sidled up to him on a visit last year, enraging a jealous suitor. She was one tough cookie: Despite losing a hand and a foot as a teenager, Muraha later gave birth and started raising a baby. And she was doing a good job: The 13-month-old infant was still healthy when biologists found it clinging to her corpse in the Virunga forest. Nearby lay another dead mother whose infant is presumed to have been kidnapped by the unknown assailants. Their motive? A stolen baby could fetch nearly half a million dollars on the black market: Gorillas like Muraha have never been bred successfully in captivity. Redmond looks dazed. He's in London for just a day before setting off to

Malaysia to help the BBC on a story about a criminal ring of gorilla traders. This morning he met with the prime minister of the Central African Republic to offer advice on conserving that country's endangered apes.

Just the day before, Redmond, an independent conservation biologist, had been at the World Summit on Sustainable Development in Johannesburg, South Africa, acting as technical adviser to the United Nations Great Apes Survival Project (GRASP). This was one of the few science-based projects to get a real boost at the summit, where delegates designated ape conservation a global priority.

Muraha was a mountain gorilla (*Gorilla beringei beringei*), a species discovered exactly 100 years ago in the mountains east of the Congo River Basin and made famous by the 1988 film *Gorillas in the Mist*. Poaching and human-transmitted pathogens have since taken a heavy toll, leaving fewer than 650 mountain gorillas in the wild.

Down in the valleys, eastern lowland gorillas (*Gorilla beringei graueri*) are not faring much better. These so-called Grauer's gorillas are being devastated by a mining spree reminiscent of the Klondike gold rush. The soil in this region is rich with coltan, an ore that's refined into the rare metal tantalum, which is used to make tiny capacitors within cell phones and laptop computers. In 2000, the price of tantalum shot up to \$80 per kilogram, a small fortune by Congolese standards. Thousands of prospectors have trekked deep into gorilla country, digging up tons of soil in search of coltan-rich mud. Redmond has documented their destruction. To sustain themselves in the rainforest, miners hunt for "bush meat," a catch phrase for any large mammals, including gorillas. A 1996 survey by the World Conservation Society reported 17,000 Grauer's gorillas. This year there are roughly 2500.

Field biologists today are becoming scientist-activists by necessity, says Redmond. Ape conservation, he says, is in "a state of emergency." Doing ape conservation is like doing triage--"a situation I know well and like very little," says Redmond, referring to his days as a medic in the Royal Army Medical Corps in the early 1970s.

Redmond began his biology career by moving to Africa in 1976 to study the parasites of mountain gorillas, identifying two new nematode species. The turning point for both Redmond and his mentor, the late Dian Fossey, came 2 years later when he discovered the headless, handless body of a long-studied gorilla. Since then he has devoted an ever-increasing share of his time to the politics of conservation. At times he has put his life on the line, once getting speared while confronting a poacher.

Mountain gorillas are not the only apes at risk of extinction. Although they are legally protected in every country they inhabit, all great ape species--gorillas, orangutans, chimpanzees, and bonobos--are listed as endangered or critically endangered by the Convention on International Trade in Endangered Species (CITES). Hunting and habitat loss are the main threats, exacerbated by political instability (Science, 31 March 2000, p. 2386). At its present rate of decline, the bonobo (*Pan paniscus*) is predicted to go extinct within a decade. The Sumatran orangutan (*Pongo abelii*) is thought to have 5 years left. Only 150 individuals remain of the Cross River gorilla (*Gorilla gorilla diehli*). Apes have been in the limelight since the late 1960s, but their populations have dwindled in spite of numerous conservation efforts. Until now, says Redmond, these efforts have lacked funding, been poorly enforced, or ignored the interests of people who share forest resources with apes. At a meeting of CITES member states in 2000, Redmond suggested unifying existing ape conservation

initiatives under a single banner. Klaus Töpfer, director of the U.N. Environment Programme, agreed, and a year later, 22 organizations came together to form GRASP. The hope is that GRASP will succeed in protecting apes where others have failed because of its scope and credibility as an international partnership.

"GRASP is the last and best possibility for saving apes from extinction," says William Travers, chief executive of Born Free, an ape conservation organization, "and Redmond is the dynamo at the heart of it." There are 23 countries with viable populations of great apes. Most of these countries are among the poorest in the world, making sustainable solutions a challenge. The top priorities are to halt the sale of ape meat by finding alternative sources of income for hunters and to shut down illegal logging. Within a year's time, GRASP will convene a meeting between representatives of countries with apes and those willing to fund conservation. Redmond hopes to have an action plan for all ape populations ready for this meeting. In the midst of this explanation, Redmond pauses to receive an urgent message. Illegal logging has just penetrated the orangutan study area in Indonesia.

"This is very disappointing," says Redmond. "They're always one step ahead of us."

In spite of such setbacks, Redmond is confident that GRASP will be able to pull the great apes back from the brink. When asked how he remains optimistic, he replies: "I have to be."

Gorilla News

Baby Mountain Gorilla Rescued From Poachers

From African Wildlife Foundation

Saturday, October 12, 2002

WASHINGTON, DC — On Friday, October 4th, National Park authorities in northern Rwanda (ORTPN) and the Ruhengeri police rescued a baby mountain gorilla from three poachers. The poachers had hidden the infant in a mountain cave for three days while they awaited a buyer. The arrests were made in the National Parc des Volcans in Rwanda, home to about half of the world's remaining mountain gorillas.

"The three, who admitted their role, said the little gorilla had been given to them for safe-keeping by another man while he went to seek a buyer," a police spokesman said. They had each hoped to make the equivalent of 40 dollars for the sale.

The spokesman said the animal had been returned to national park authorities for a medical check and was no longer in any danger. The female gorilla baby is estimated to be 2-3 years old. Park authorities reported that she was in good health - weak but responding well to rehydration treatment. She is not a habituated gorilla from Rwanda as all groups (research and tourism) have been checked by The International Gorilla Conservation Program (IGCP) staff and park authorities. There was speculation earlier in the week as to whether or not this was the infant that was taken by poachers on May 9 of this year, but staff veterinarian assessed that this baby's health was too good for it to have been in captivity for five months. Also, the nose-print that park authorities have for the baby taken in May is inconsistent with the nose-print of this infant.

Park authorities are continuing the investigation. They have the infant under 24 hour care and report that she is eating well and getting stronger. Staff are discussing what next steps need to be taken to reintroduce the infant into the gorilla population.

Hopes rise for mountain gorillas

Alex Kirby

BBC News Online environment correspondent

Thursday, 17 October, 2002

A century after their first sighting by Europeans, central Africa's mountain gorillas are slowly increasing. Despite fears that they faced imminent extinction, the gorillas' numbers have risen by nearly 9% in 13 years. Conservationists say a vital way to protect them is by attracting more tourists. They believe the gorillas can help to rebuild the economies of the war-shattered countries where they live.

It was on 17 October 1902 that the species was first sighted by a non-African, when a German explorer, Oscar von Beringei, came across one.

Cross-border population

Two animals were subsequently shot and sent to Europe for identification. The gorillas' scientific name is *Gorilla beringei beringei*. Today half of the animals live in Uganda's Bwindi Impenetrable National Park. The rest are split between Mgahinga National Park, also in Uganda, the Volcano National Park in Rwanda, and the Virunga National Park in the Democratic Republic of Congo (DRC). In 1989, there were 620 individuals - today there are thought to be about 674, the increase having occurred among the gorillas living outside Bwindi. Threats to the apes include hunting, capture for the illegal pet trade, and especially habitat loss.

Three conservation groups formed a coalition to save the species, the International Gorilla Conservation Programme (IGCP). The groups are WWF, the African Wildlife Foundation (AWF), and Fauna and Flora International (FFI).

The IGCP director, Dr Annette Lanjouw, said: "International and national efforts to protect this species have pulled the mountain gorilla back from the brink of extinction. However, if we want to ensure that they survive another hundred years, we must ensure that we lift the pressures that still threaten their forest home. The IGCP says eco-tourism is a notable success, with more than 10,000 tourists visiting the gorillas in some years."

Apes' or humans' needs

There are risks, not least that the visitors may infect the animals with diseases that can prove fatal. The countries where the mountain gorillas live have been wracked by war and are among the poorest in the world.

But the IGCP says: "The income from tourism to gorillas has probably been the single most important factor in ensuring... that the parks have continued to be supported and conservation activities continued over the decades. The income from gorilla tourism is one of the main sources of foreign revenue for the three host countries."

Dr Lanjouw told BBC News Online: "This is a very modest increase in the gorillas' numbers, and we'd have expected a much higher one if they faced no threats. "But the population is okay - even with this slow increase the gorillas are viable. For the future, I'm holding my breath. The

humanitarian situation in the DRC is quite desperate. There are encouraging signs of a willingness to talk by the big players in the war, but we have still to see that translated into action. The war is exacerbating habitat loss and the other risks the gorillas face. Tourism is thriving in both Uganda and Rwanda - but no-one's going to see the DRC gorillas."

Poachers kill rare gorillas : Congo officials led to site by killers

AP Saturday, November 2, 2002

KIGALI, Rwanda -- Poachers killed at least two rare mountain gorillas and snatched a young female in eastern Congo, Rwandan officials and conservationists said yesterday. Authorities found two bodies on Oct. 26 when poachers led them to the site, admitting they had killed the animals and taken the female, said Rwandan police spokesman Tony Kuramba.

Later, two more dead gorillas were found, and authorities were trying to determine if all four deaths were linked. Only about 650 of the animals are still alive, and the survival of some may be threatened by a civil war in Congo. The area where the gorillas died is in the Virunga Mountains, a chain of extinct volcanoes that straddles the borders between Rwanda, Uganda and Congo.

Poacher arrested last month

The poachers were arrested early last month after three men were caught by police trying to sell the young female for \$20,000 US, said Francois Bizimungu, an official at Rwanda's national park authority.

Of the estimated 650 mountain gorillas in the world, about 350 are found in the national parks in the Virunga Mountains. The others live in a separate national park in Uganda.

Rebels in control of Park

Rwanda and Uganda vigilantly guard their gorilla populations against poachers, but the civil war in Congo has left rebels in control of the park there. The rebels have not paid the park rangers in years, making the area easier for poachers to work in, Bizimungu said.

The young gorilla, named Mvuyekure, was being held in quarantine while experts try to determine whether it is safe to take her back to the wild. They fear Mvuyekure may have picked up human diseases, which could have devastating consequences if transmitted to gorillas in the wild.

"Diseases such as measles and mange, even the common cold, are easily transmittable from humans to gorillas," said Dr. Mike Cranfield, director of the Mountain Gorilla Veterinary Project, which is funded by the Morris Animal Foundation in Englewood, Colo.

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Fossey Fund Builds Camp to Deter Gorilla Poachers

NEW BRUNSWICK, New Jersey, November 8, 2002 (ENS) - The Dian Fossey Gorilla Fund International has announced an action plan to halt a recent poaching spree that has left six mountain gorillas dead, one infant in temporary captivity and several others missing in Rwanda.

Rutgers anthropology Professor H. Dieter Steklis, chief scientist and vice president of the fund said Thursday that immediate preparations are being made to re-establish patrols based at Karisoke, near the border with the Democratic Republic of Congo, an area that once was the location of a camp founded by Dian Fossey in the late 1960s and where recent poaching incidents have occurred. The area has not been protected or monitored by the fund or the Rwandan national park authorities since the fund's facilities were destroyed during civil unrest in the 1990s. The new permanent camp, organized by the fund and Rwandan and Congolese national park authorities, should be set up within the next couple of weeks, Steklis said. As many as 15 to 20 rangers and security forces are expected to be stationed at the camp, which will include sleeping and cooking facilities.

"I guarantee that this will be a deterrent to poaching in this sector, because there will be more ears and eyes in the forest around the clock," said Steklis, who has spent extensive time at Karisoke, serving as the director of the fund's activities in Rwanda. His research on primate behavior, biology and evolution is internationally recognized.

As the result of several poaching incidents since May, four female and two male mountain gorillas have been confirmed dead. In an analysis by Steklis' wife, Netzin Gerald Steklis, director of the fund's Scientific Information Resources Center, the four females lost could have led to the birth of as many as 427 animals over the next 50 years, assuming that in each generation a female gives birth to three surviving daughters. This estimate is based on demographic data amassed over decades by Netzin Steklis and Rutgers anthropology students.

Given that the population of mountain gorillas is only approximately 355 at this time, the loss is serious, says Netzin Steklis. "This analysis underscores the central importance of females to the future growth and survival of this population. For a small population like this, the death of these four females is a catastrophe."

The fund's staff has been protecting, monitoring and studying the mountain gorillas of Rwanda for more than 30 years, continuing the work begun by Dian Fossey, who was killed in 1985. Fossey was the subject of the 1988 major motion picture "Gorillas in the Mist."

Only 2,000 orang-utans left in Sarawak

KUCHING: The population of orang-utans, one of the world's endangered species once found in abundance, has dropped to some 2,000 in Sarawak due logging activities and illegal hunting. Sarawak Forest Department executive forester (national parks and wildlife division) Victor Luna Amin said the orang-utans, which were seen throughout southern Sarawak in the 1950s, were now found only in the Batang Ai National Park and the Lanjak-Entimau biodiversity conservation area in Sri Aman Division.

Similarly, he said, the population of the proboscis monkeys, another endangered species, had declined to less than 1,000.

"The orang-utans and proboscis monkeys are the icons of Sarawak and eco-tourism assets which should be protected," he said at a workshop on "Enhancing Professionalism for Tourist Guides" at the Holiday Inn.

He also had earlier presented a paper on "National Parks as Natural Heritage" at the two-day workshop jointly organised by the state Tourism Ministry and Sarawak Development Institute.

Amin said flying foxes were also one of the wildlife under threat as they were rarely seen

nowadays compared with the thousands of them which flew overhead nightly in the 1970s. He said illegal hunting had significantly reduced the state's wildlife population.

"In the old days, hunters used spears and darts but now they use shotguns. Eighty-eight per cent of the animals killed were shot. Over three million cartridges are used each year," he said.

Amin said very little wildlife meat was sold in towns in the 1980s but this had shot up to at least 1,000 tonnes a year in 1996. He said a one-year study in 1987 by Wildlife Conservation Society researcher Elizabeth Benetta at a logging camp in Sarawak revealed that 1,149 animals were killed and 29 tonnes of wildlife meat produced. He said the state government's ban imposed on the sale of wildlife meat had helped to improve the situation and such meat was no longer sold at wet markets. Amin said the department and a Miri-based firm were continuing to study how to get the co-operation of loggers to reduce the hunting of wildlife. He said it was important that national parks be sustainably managed for eco-tourism.

Five years ago, the state government adopted the Master Plan for Wildlife in Sarawak, which focused on conservation of all categories of land and control of hunting.

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Gorillas in our midst

Liis K Hyvarinen

On a hike through the mountainous rain forest of Rwanda, tourists get close enough to touch the endangered animals (though that's forbidden). In a twist, bringing humans into their habitat helps keep the species alive.

RUHENGERI, Rwanda -- About 15 feet from me, enjoying an afternoon snack of bamboo, sat 350 pounds of mountain gorilla. We would get much closer. I had climbed on my hands and knees up a mountain, through a rain forest, hoping to catch a glimpse of these endangered animals. And finally, after almost an hour of slowly following the leader of an eight-member gorilla pack, I was in a position to get good pictures of the male leader. But my digital camera was malfunctioning in the humidity that was present even at about 6,000 feet. Remembering that my new, professional TV camera also took still photos, I pressed my eye to its viewfinder and trained the lens on the magnificent beast.

Almost immediately, the gorilla lifted his head from his meal and looked at my camera. Excited about the perfect image, I pressed a button that would freeze the video image to a still. My eye still pressed against the camera, I admired this portrait as I waited for the camera to automatically kick back into the video mode so I could see where the gorilla had moved in the past 10 seconds.

"Get down, get down!" I heard my guide, Felix, whisper urgently from a few feet away. From the corner of the eye not looking through the viewfinder, I could see Felix calmly pointing with both of his hands for me to dive into the shrubbery. Confused by his gesturing, I lifted my head from the viewfinder -- and found the gorilla right in front of me and moving closer. Swinging both cameras in front of me, I dove headfirst into the leaves. My face buried in the underbrush, I tried to hear where the gorilla was going. But the animal made no noise; there was no growl, no banging of his chest, no audible footsteps. And then I felt his foot -- and his weight -- on my back. The leader of

this gorilla family, the male was reclaiming his territory, exercising his authority, by walking over me. As the other people on my "gorilla tour" scrambled out of his way, the animal calmly sat down 6 feet from me and continued his bamboo meal as if nothing had happened.

Soon, the time allowed for our group to be on the mountain was up, and without further interaction, we left the gorillas to their habitat. Tourism can mean survival "Gorillas are not violent animals," said Praveen Moman, a safari operator who has led gorilla tours in Uganda for six years. "I cannot remember a single incident where a tourist on a gorilla safari was hurt by the animals."

The mountain gorilla's natural habitat is along the Virungas Mountains in central Africa. Wanderers in search of food, the gorillas roam the mountain range, which stretches through Rwanda, Uganda and Congo. Though gorilla tracking, as it is called, has been available in Uganda for years, Volcanoes National Park in Rwanda was forced to close after the country's bloody civil war in 1994.

"If there are no tourists, those gorillas will die," said Moman, whose company was the first gorilla tour operator to come back into the park after the Rwandan government reopened it for tourists in 2001.

Experts estimate that 355 of the creatures remain in the wild. Ironically, specialists now believe that bringing humans to visit the gorillas in their natural habitat may be the cornerstone to saving the species.

"If the money (spent by the tourists) is seen to be benefiting local communities, then local people can put a value on the gorillas," said Clare Richardson, president and CEO of the Fossey Foundation. That is the research and preservation group founded by renowned gorilla expert Dian Fossey. When tourists "see and film the gorillas, (it) raises their profile around the world, and creating awareness of their plight brings conservation funds as well as tourism dollars," Richardson said.

Those tourism dollars come from the permits that allow "ecotourists" to go on a gorilla safari. Going on a safari is relatively cheap: The permit to hike up the mountain to see the animals is \$250 per person. That money goes toward rebuilding the park and saving the gorillas. Yet, it is a delicate balancing act to let the visitors see, but not endanger, the gorillas, and contact with the animals is strictly controlled.

"Gorillas are susceptible to many human diseases and in many cases have no acquired immunity," Richardson said. "They are particularly susceptible to respiratory disease, which is why tourists with obvious signs of cold or cough are not allowed to visit the gorillas. Imagine a flu or measles epidemic racing through this extremely endangered population. They'd be wiped out."

Richardson has worked seven years for the Fossey Foundation, named for the researcher who began her 18-year crusade to save the mountain gorilla from extinction in Volcanoes National Park. The walls inside the Rwandan Office for Tourism and National Parks, at the base of the Virungas mountain range, are still decorated with movie posters from *Gorillas in the Mist*, the film that starred Sigourney Weaver as Fossey, who lived among the gorillas. An uphill trek Based in Atlanta, the foundation maintains a staff of scientists, trackers and antipoaching patrols in Rwanda. But the organization does not lead the tours up the mountain; they are carried out by commercial operators. And tourists are rarely disappointed, though this ecotourism requires stamina and patience. Each visitors group gets an hour with the animals, but that comes only after a hike that requires crawling and mountain climbing. Gorilla tracking has made Ruhengeri, where the sightseeing begins, one of the most popular tourist destinations in Rwanda. The only way to see the gorillas is by following, on foot, a guide and special trackers (who double as security guards) on a multihour hike through the

rain forest. Most visitors choose to come to the Ruhengeri area the night before their safari because the participants must report to the park office at 8 a.m. to have their permits checked. After a briefing about safety and how to interact with the gorillas, hikers are divided in groups limited to eight people. A caravan of Land Rovers takes the visitors to the bottom of the mountain range, and the trek continues on foot.

"Gorillas can travel several miles each day in search of food," my guide, Felix, said. To minimize the amount of time and effort it takes to get to the animals, three trackers are sent out before dawn to find gorilla groups. "We use walkie-talkies . . . to find the best route up the mountain to get to them."

The first hour is a fast hike through potato fields, but the terrain changes dramatically at the edge of the rain forest. From there until the first gorilla sighting, the steep ground is covered with volcanic rocks and mud. The "trail" is narrow, overgrown paths that animals have made while grazing. At times the underbrush is so thick that the only way to advance is on all fours. Felix used his machete to cut through the worst obstacles. The last hour of the uphill climb can be quite demanding. The altitude alone can leave those used to sea level gasping for air. The valley where the safari starts is at 5,500 feet, and the gorillas can wander up to 11,000 feet.

For my group, the first glimpse of the gorillas came at 11:15 a.m. Felix stopped the hikers and reminded us of the safety rules for the humans and the animals. He would enforce the one-hour rule; there would be no drinking, eating, spitting, urinating, smoking or littering. And though the animals at times might come much closer than the 15-foot separation the government requires, Felix would not allow us to touch them. The separation rule is there not to protect the tourists from getting scratched or bitten -- mountain gorillas are vegetarian and rarely act like the vicious carnivores that popular culture portrays them as -- but to safeguard the gorillas' fragile immune systems.

The pack my group observed had five adults and three babies; those numbers can range from two to 40, led by a dominant male. The male in our group was at least twice the size of an average man; mature males, called silverbacks, can weigh more than 450 pounds, stand 5 feet 6 and have an arm span of 8 feet. The females are somewhat smaller and tend to their babies with remarkable tenderness. The little ones tease each other and generally make a ruckus in the rain forest. Although peaceful, gorillas do not like eye contact. Males particularly can take that as a challenge, which can lead them to charge. And sometimes a videocamera lens pointed at the animal at close range can appear to be one giant eye. A gorilla on his hind legs, making what appears to be the perfect pose for a photo, is about to charge -- a clue I had obviously missed.

-- Liisa K. Hyvarinen is a freelance journalist who lives in Tampa. As a Dart Fellow for Journalism and Trauma for the University of Washington, she traveled to Rwanda in June to train journalists.

If you go

GETTING THERE: By using ticket consolidators -- companies that buy blocks of airline tickets and sell them at a discount -- it is possible to get a round-trip ticket from Tampa to Kigali, the capital of Rwanda, for less than \$2,000.

It takes two hours by car to get to Volcanoes National Park from Kigali. Forget about renting a car; you are better off hiring a local driver with a Land Rover. The usual charge is \$100 per day plus gas. This will guarantee your safety; the roads are full of dangerously deep potholes that prevent driving after dark. Payment is expected in cash.

Dependable drivers can be located through the U.S. Embassy in Kigali or with the help of the front desk at your hotel. Public transportation to the park is possible by using so-called Okapi buses, which are seven-passenger vans that usually carry up to 15 people.

STAYING THERE: Hotels in Kigali that are equivalent to mid price U.S. accommodations range from \$60 to \$200 per room, depending on the time of year, single or double occupancy, and room size. Only one Kigali hotel, Hotel des Mille Collines, accepts credit cards. The Kinigi Guest House is the only hotel within a 10-minute drive of the staging area for the gorilla hikes in Volcanoes National Park. Rooms range from \$15 to \$35; the hotel has a Western-style restaurant. Kinigi does not take credit cards.

THE GORILLA TOUR: The permit is \$250 in cash if paying in person at the Office for Tourism and National Parks in Kigali. If the trip is being arranged through a travel agency, the cost can be added to your bill. Proper hiking boots are essential to guard against sprained ankles or worse. Long sleeves and thick, durable pants help guard against sharp branches, vines with thorns and a variety of nettles that leave a burning rash on the skin.

Contact the following tour companies:

Volcanoes Safaris (headquarters in England; offices in Uganda and Rwanda), www.volcanoessafaris.com; e-mail salesrw@volcanoessafaris.com.

New World Expeditions (in Springboro, Ohio), e-mail nwe@core.com; call (937) 748-8887 (also handles discount plane tickets).

Dollarsaver Travel (in Overland Park, Kan.), www.dstravel.com; e-mail save@dstravel.com; call (913) 381-5050; fax (913) 381-6788.

RWANDA VISITATION DETAILS: The Office of Tourism in Rwanda issues gorilla visitation permits; go to www.ortpn.gov.rw; e-mail ortpn@rwanda1.com.

No visa is required for Americans to enter Rwanda for fewer than 90 days.

MEDICAL CONSIDERATIONS: You need evidence of yellow fever immunization. Your county health department will help you decide on other shots you may want to get before leaving. Recommended are hepatitis A and B, typhoid fever, meningococcal meningitis and polio, as well as medications for malaria and travelers diarrhea. Medical facilities in country are limited, and some medicines are in short supply.

The U.S. State Department says that "evidence of and/or assurances from U.S. insurance companies will not be accepted as settlement of medical expenses in Rwanda." The department strongly urges Americans to consult with their medical insurance company before traveling abroad to confirm whether their policy applies overseas and if it will cover emergency expenses such as a medical evacuation. Consider buying a "medical evacuation" membership; as a member of this type of service program, you have 24-hour access to a specially equipped jet with a medical team that will take you to a hospital of your choice from anywhere in the world.

St. Petersburg Times
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XXIst Annual Conference

Australasian Primate Society

When: 6th – 8th December, 2002

Where: Education Resource Centre,
Melbourne Zoo, Parkville, Melbourne,

Theme: Caring for wild and captive Primates
Environmental enrichment
Veterinary care
Field research
In situ conservation programs

Presentations include:

- Perth Zoo's **new Orang-utan exhibit**
- Visiting **Lemurs** in Madagascar
- Update on regulations for **primate imports**
- Hand-rearing an **orphan Chimpanzee**
- **Conditioning of gorillas**
- Report on 2002 PASA Meeting and **Bushmeat Trade**
- Demonstration of **environmental enrichment** devices for primates

Registration:

- Members \$90
- Non-members \$125
- Students \$60

Registration cost covers lunches, morning and afternoon teas and abstracts.
Conference dinner charged separately

For details: Visit www.primates.on.net.au
Or contact aembury@zoo.org.au

Any items for discussion at the Annual General Meeting should be forwarded to Amanda for inclusion in the agenda

Thanks to Melbourne Zoo for hosting the APS Conference. Learn more about Melbourne Zoo at www.zoo.org.au

Editorial Comment

Primate species in almost all habitat areas are under threat. Any process that traverses wilderness areas contributes not only to habitat destruction directly through chopping down however many trees to create the actual roadways, but permits easy access to previously inaccessible areas. This contributes to poaching for bushmeat and the pet trade, logging and the creation of new settlements and plantations. One single roadway through deep forest can compromise an extremely large area.

Gunung Leuser National Park in Northern Sumatra covers 2.6 million hectares and is one of the world's richest tropical rainforests, with 3500 floral species, 130 mammal species, 325 bird species, as well as reptiles, amphibians and fish. The area contains 89 rare wildlife species that are protected by law. The presence of the forests also protects local communities in the valleys by protecting against flooding and soil erosion, and by protecting water supplies and freshwater fisheries, all of which have been valued at \$200 million, far more than if the forests were cleared for agriculture and the timber sold.

The Ladia Galaska highway project proposes to build three major roads connecting the Indian Ocean, Gayo, Alas and the Malacca Strait, ending the relative isolation of the local community in South-east Aceh by giving them straightforward access to Medan. This new thoroughfare consists of a 504 km trunk road east to west, a 713 km road north to south and a 369 km support road and will go through the protected forests and Leuser National Park. The project will cost Rp 1.5 trillion (US\$150 million).

The conflict of interest between economic development and environmental conservation is of course of long standing. Ladia Galaska is claimed to be a means to end the isolation of local people and to aid their economic advancement. Local politicians promise that it will bring prosperity to local neglected communities, and while there is local support for the road as a short cut to Medan, there is also recognition that the forest should be conserved.

Although encroachment into the national park along existing roads has been occurring on a small scale when locals move in, most of the illegal logging that causes damage to the forest ecosystem has been financed by wealthy businessman, who pay employees of government departments and security forces. Skirmishes between groups of soldiers and policemen have reportedly become commonplace in North Sumatra as they try to protect their respective gangs of illegal loggers.

In 2000, 270 000 hectares of Aceh's forests were lost and 20% (170 000 hectares) within the National Park had been illegally logged. Although several alternatives, including re-routing the road or upgrading and widening the existing roads have been proposed by the Department of Forestry and Environment Ministry, provincial authorities seem determined to go ahead. Currently there are legal challenges being prepared to halt the project and protect one of the last refuges for the Sumatran Orang utan.

On a brighter note, I hope to see many of you at the XXIst Annual Conference of the Australasian Primatological Society at Melbourne Zoo from December 6-8, 2002. The theme of the Conference is "Caring for our Cousins".

Christine Baker—Assistant Editor