



Gorilla Journal

Journal of Berggorilla & Regenwald Direkthilfe

No. 42, June 2011



Status of Mountain and Grauer's Gorilla Orphans

**Afi Mountains:
on the Trail of the
Cross-River Gorillas**

**A New Genetic
Perspective on
the Evolutionary
History of Gorillas**

**Gorilla Population
in Deng Deng
and a Logging
Concession**



BERGGORILLA & REGENWALD DIREKTHILFE

CONTENTS

D. R. Congo	3
New Gorilla Census in Kahuzi-Biega	3
Threats to Maïko National Park	3
Sarambwe Reserve Integrated Management Support Project	5
Mining Ban Lifted in Eastern Congo	5
Attack on Ranger Patrol in the Virunga National Park	7
Government Suspends Oil Exploration in the Virunga National Park	8
Status of Gorilla Orphans in Congo	8
Rwanda	11
Human Metapneumovirus Infection	11
Virunga Gorilla Conservation	12
Uganda	13
Bwindi Gorilla Killed by Poachers	13
Cross River	13
Renovation of Base Camp at Afi Afi Mountains: on the Trail of the Cross River Gorillas	14
A New Genetic Perspective	16
Gorillas	18
Gorilla Population in Deng Deng and a Logging Concession	18
Two Gorilla Killers Arrested in Republic of Congo	19
Wildlife Trafficking	20
Update of The Aspinall Foundation's Gorilla Project in Gabon	23
Reading	26
New on the Internet	26
Berggorilla & Regenwald Direkthilfe	27

Organization Address:

Berggorilla & Regenwald Direkthilfe
c/o Rolf Brunner
Lerchenstr. 5
45473 Muelheim, Germany
E-mail brunner@berggorilla.org

Website:

<http://www.berggorilla.org>

Bank Account:

Account number 353 344 315
Stadtsparkasse Muelheim, Germany
Bank code number 362 500 00
IBAN DE06 3625 0000 0353 3443 15
SWIFT-BIC SPMHDE3E

Authors of this Issue

Ruffin Ambahe is head of monitoring and antipoaching for WCS (Mbam et Djerem project and Deng Deng Project) and the principal team leader on the surveys.

Edgar Ambassa is an ecogarde at Mbam et Djerem National Park and a team leader for monitoring in Mbam et Djerem and Deng Deng.

Dr. Richard Bergl is the Curator of Conservation and Research at the North Carolina Zoo. He has been involved with Cross River gorilla research and conservation since 1999.

Nicolas Bout is PPG (*Projet Protection des Gorilles*) Gabon Director and *The Aspinall Foundation* Representative in Gabon.

Amos Courage is Overseas Project Director of *The Aspinall Foundation* in Port Lympne.

Molly Feltner is MGVP's Communications Officer and has been working in Rwanda since 2009. She is a writer and photographer and produced stories for publications like *National Geographic Traveler* and *USAToday*.

Bernard Fosso is the Mbam et Djerem project leader for WCS Cameroon.

Dr. Roger Fotso is the WCS Cameroon programme director.

Naftali Honig studied ethnobotany at Cornell University. He has spent 3 years living in Republic of Congo, beginning in the HELP-Congo chimpan-

zee release project in Conkouati-Douli National Park, and is now working as the PALF Coordinator.

Inaoyom Sunday Imong has been working with WCS Nigeria as a research officer since 2004 and is currently conducting a Ph.D. study of Cross River gorillas with the Max Planck Institute for Evolutionary Anthropology.

Dirk Jörgens is studying veterinary medicine in Berlin. He worked as an intern in Africa, the USA and Germany. He is also a tour guide, and he has described a new species of poison arrow frog.

Dr. Fiona Maisels is the surveys and monitoring advisor for WCS, Central Africa.

Luc Mathot founded the NGO *Conservation Justice* which is dedicated to improving law enforcement in Central Africa with LAGA as a model. It initiated the project AALF in 2010.

Jean-Bosco Poumegne is the Deng Deng project leader for WCS Cameroon.

Claude Sikubwabo Kiyengo worked for the IUCN, the ICCN and the NGO VONA; since 2008 he has been our assistant. In 2011 he became the PACEBCo expert for conservation and biodiversity in the Virunga region (a COMIFAC program).

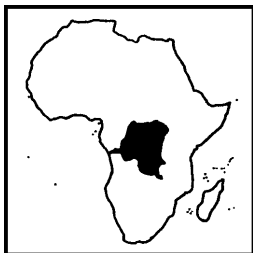
Dr. Olaf Thalmann is a postdoctoral fellow at the University of Turku, Finland, focussing his research on the demographic history and adaptive evolution of mammalian species by employing population genetics tools.

Dr. Linda Vigilant directs a research group that uses genetic approaches to provide insights into the evolutionary histories and social structure of primate populations.

Paulin Wilondja-As-Ngobobo worked for several gorilla conservation NGOs, was principal conservator and chief warden of the southern sector of the Virunga National Park from 2006 to 2007 and is now conservator of the Maïko National Park.

Gorilla Journal 42, June 2011

Editor: Dr. Angela Meder
Augustenstr. 122, 70197 Stuttgart, Germany
Fax +49-711-6159919
E-mail meder@berggorilla.org
Translation and Proofreading: Ann DeVoy, Bettina and Andrew Grieser
Johns, Colin Groves
Cover: Dirk Jörgens with Good Luck, Afi Mountain, Nigeria
Photo: Dirk Jörgens



D. R. CONGO

New Gorilla Census in Kahuzi-Biega National Park

A census team led by the *Wildlife Conservation Society* and the *Institut Congolais pour la Conservation de la Nature* (ICCN) in Kahuzi-Biega National Park in the Democratic Republic of the Congo announced that the population of Grauer's gorillas in the highland sector has not only survived, but has even increased since the last census.

The census, made in September–October 2010, revealed the presence of 181 individual Grauer's gorillas, up from 168 individuals detected in the same sector in 2004. Although the census team were unable to survey the entire highland sector, they still recorded more gorillas.

"We had several close calls with armed militias during the survey," said Deo Kujirakwinja, WCS's Albertine Rift Coordinator in Congo. "Thankfully, no one was hurt, and our census result is positive news for the conservation community." The lowland sector is even more insecure; it has been largely inaccessible to researchers due to the frequent presence of militia.

From a WCS press release

Threats to Maïko National Park

While the Maïko National Park still contains a high biodiversity, it is increasingly obvious that its conservation is still dependent on finding a solution for the threats to its natural resources, which have decreased neither in number nor in intensity.

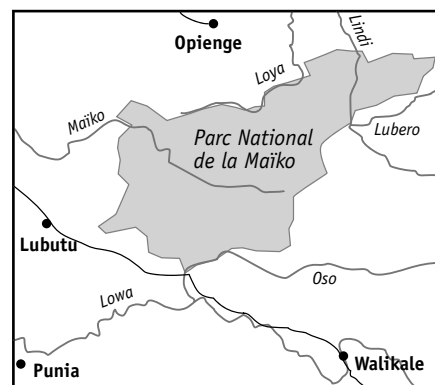
The current levels of threats and their consequences are high: the challenge to keep these threats within acceptable proportions is enormous. Basically, the park is facing problems that threaten its very survival.

Illegal Occupation

Various zones of the park are occupied by sundry armed bands and other mystical-religious groups. In particular, the Simba rebels have occupied the southern sector of the park since 1964; the Mai-Mai are occupying parts of the northern and central sectors, and the mystical-religious groups of the Idomes and the Kitawalis are occupying the central section.

In the past, the presence of these groups did not have a marked effect on the park's natural resources, nor did it pose an obstacle to conservation activities. More recently, however, their presence has become increasingly alarming. The following are the emerging threats:

- Due to the insecurity caused by the armed bands, all these zones are basically inaccessible. As a result, the level of patrolling and the protection it affords has decreased. The situation is aggravated by a lack of



even the minimum of equipment required for the organisation of monitoring activities.

- The Simba formerly operated on a subsistence level; now they have become major exploiters and traders of the park's natural resources.
- Since they have begun making the exploitation of natural resources their business, the Simba have developed a suspicious and hostile attitude towards our rangers, whom



Exploitation of minerals inside the park

Photo: ICCN/Maïko National Park



D. R. CONGO



The Park Director and the Commander of the 7th region militaire after the meeting on park security in Kindu

Photos: ICCN/Maïko National Park

they consider an obstacle to their activities and therefore their “enemies”.

The Exploitation of Minerals within the Park

At least 17 quarries are operating inside the park (for gold, coltan, diamonds, etc.): 9 are located in the northern sector, 3 in the centre and 5 in the southern sector. The quarries are owned or co-owned by the armed bands, certain uncontrolled elements of the armed forces and some local chiefs.

Armed and Commercial Poaching

Commercial poaching is taking on alarming proportions, posing the most important threat to the park’s fauna. It is mostly committed by the armed bands, the uncontrolled military elements and by traders who live in the surrounding urban centres and buy bushmeat from the hunters in exchange for money and/or manufactured products such as salt, soap, clothes, cigarettes and alcoholic beverages. To a smaller degree, the local population also engages in poaching.

Although elephants, buffalos, chimpanzees and the smaller primate species are the primary targets, no species is spared – the poachers kill any animal they encounter along their route. Poachers now use military issue weapons such as 12 calibre guns, traps and even poison. The presence of military posts in the peripheral zones of the park and the increased availability of military weapons can only exacerbate the problem.

The Trade in Live Animals

This trade has reached enormous proportions in all three park sectors. Young animals are captured alive to



Illegal gorilla baby traffickers

serve as pets or for sale. The most targeted species are baby gorillas, chimpanzees, other primates, birds and the okapi.

Thanks to the efforts and the determination of the Park Director and his staff, a far-reaching network of illegal traffickers has recently been dismantled after a long investigation. Since 21 March 2011, 5 traffickers have been arrested and taken to court. One baby eastern lowland gorilla, about 2 years old, was confiscated just before it could be sold (see photo below). This gorilla baby is now being quarantined in Goma, prior to being rehabilitated.

Proliferation of Weapons and Ammunition in the Peripheral Areas of the Park

A war involving armed bands automatically results in a proliferation of weapons and ammunition. However, a disorganized issuing of weapons permits also has something to do with it. The emergence of arms and ammunition manufacturers complicates the situation even further.



Paulin Wilondja-As-Ngobobo with the confiscated Lubutu before he was transferred to Goma



D. R. CONGO

Conclusions

The threats to Maïko National Park are numerous and varied. In combination, they have a negative impact on the ability of the park to exert control and, consequently, on the coverage of our protection units – which is at most 15%. Most monitoring activities are in abeyance.

This situation has a whole range of consequences such as the resurgence of illegal activities and the threats thus posed to the fauna, frustration and a drop in motivation among rangers, etc. Due to their nature, origin and cause, some of these problems cannot be effectively addressed by the park management alone. A solution requires the lobbying and concerted action of all involved stakeholders, with concerted and participatory action an absolute necessity.

Ever sensitive to the problems of the park, *Berggorilla & Regenwald Direkthilfe* (B&RD) has graciously agreed to provide substantial financial support to the Park Management. Thanks to this support the park management was able to initiate a sensitisation and lobbying campaign in December 2010, aimed at persuading the political-military

authorities to become involved in the search for sustainable solutions to the problems facing the park.

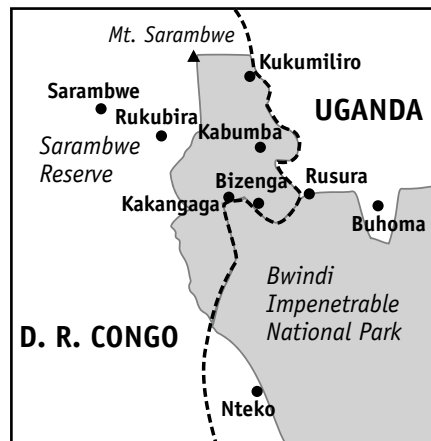
Members of the park's staff have already met with the political-military authorities of the provinces of Maniema and North Kivu and the Eastern Province on several occasions. A high-level meeting is expected to follow up these concerted efforts.

Paulin Wilondja-As-Ngobobo

Sarambwe Reserve Integrated Management Support Project

The Sarambwe Reserve Integrated Management Support Project ran from 2009 to early 2011. The project was funded by IUCN France and B&RD and implemented by the Congolese NGO VONA (*Voix de la Nature*). It had the following objectives:

- establish 28 km of trails for monitoring and ecotourism purposes
- demarcate 14 km of the reserve boundary by tree planting
- assist in the establishment of a structure to promote dialogue and



the resolution of conflicts around the reserve, involving at least 10 stakeholders

- capacity building of 12 ICCN staff in monitoring, protection and ecotourism
- develop 75 ha close to the reserve for agro-forestry and small-scale reforestation
- facilitate monitoring and protection of the reserve by making funds available for daily patrols and the fight against poaching.

The project targeted the villages of Mwiganywa, Ngoma, Mugandu, Rutukira, Kibanda and Sarambwe; a total population of 17,235 people. 377 of these local people benefitted directly from the project through employment or training in various activities.

Additional target groups were the Congolese Government and the Congolese Institute for Nature Conservation (ICCN). These institutions benefitted through various interventions, particularly training provided to their staff and assistance given in monitoring and protection.

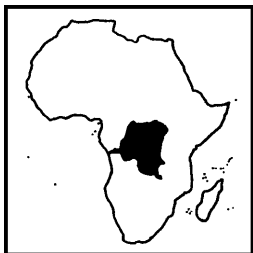
Activities and Achieved Results

Training in monitoring and ecotourism: Two training sessions in monitoring and in the use of GPS units were organised for the project staff in Feb-

Mining Ban Lifted in Eastern Congo

On March 10, 2011, the mining ban for eastern Congo was lifted by President Kabila. It had been established on September 9, 2010, as a means to break up “mafia groups” that have controlled the mineral trade in the east. This ban was strongly criticized heavily by many experts who claimed that it would destroy the economy of the region. According to the *Enough Project*, the ban has not seemed to accomplish any of its objectives, and both violence and illicit mineral extraction has continued unabated. Essentially it allowed the government to use its army to establish greater control over mine sites in the eastern provinces. The government has done nothing to indicate that it has improved traceability of the minerals’ sources. Smuggling increased and the communities continued to suffer.

After the lifting of the ban, various stakeholders in the Democratic Republic of the Congo’s mining sector have signed a code of conduct designed to reduce fraud and increase transparency, but there is still concern about illegal mining and the military’s role.



D. R. CONGO



Ranger patrol on a trail that marks the boundary of the Sarambwe Reserve

Photo: Augustin Rwimo

ruary and March 2010, financed by the *Berggorilla & Regenwald Direkthilfe* (B&RD). Six rangers and four trackers participated in the training. The most important topics covered were habitat types, collecting and saving geographical coordinates, the biology of the gorillas, and the use of compasses.

Organisation of a workshop on the management of Sarambwe: This activity was implemented during the first phase of the project. The workshop participants were drawn from all sections of Sarambwe society: representatives of the Rutshuru administration and of Kiwanja city, international NGOs and programmes (WWF, CARPE, IGCP), local NGOs and associations working in Sarambwe, a representative of the Pygmies, and ICCN staff. The 35 participants spent 3 days discussing issues concerning how to improve the management of Sarambwe.

The recommendations formulated at the end of the workshop were followed up during the remainder of the project, contributing to its success.

Establishment of a village committee for participatory management:

Following the workshop, a committee was set up with the task of resolving conflicts and following up development activities in the vicinity of the reserve. On 30th May 2010 it was officially introduced to the ICCN, the local authorities and NGOs, and to VONA. The committee consists of 18 village representatives (including 4 women) and the chief of the village grouping.

Boundary planting: Three boundary trails, with a total length of 17.2 km, are already established along the southern, eastern and western border of the Sarambwe Reserve. The southern trail is 3 km long and runs along the Evi River; the eastern trail is 6 km long and separates the Sarambwe Reserve from the Bwindi Impenetrable National Park on the Ugandan side of the border; the western trail is 8.2 km long and separates the reserve from the community-owned lands. The western boundary turns to the east in an angle to form the northern limit of the reserve.

The eastern trail has been main-

tained twice. The western trail has only been cut for a length of 600 m and been maintained once. This latter trail was demarcated with 983 *Erythrina abyssinica* trees, 745 of which replaced seedlings that had been planted previously.

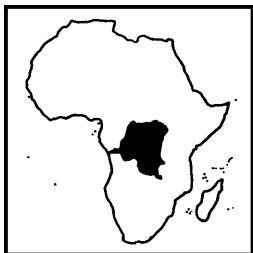
Establishing monitoring and patrolling trails: Ten east–west trails and one north–south trail (the so-called central trail) have been cut inside the reserve with a total length of 32,380 m (compared to the planned 28,000 m). This means that an extra 4,380 m has been cut, an excess of 15.43% achieved above the target.

Raising of forestry and agro-forestry seedlings in nurseries: Four nurseries are operating and have already produced 95,000 seedlings for forestry and agro-forestry use, allowing the small-scale reforestation of 24 ha and the cultivation of 65 ha with agro-



Above: young trees in a nursery, ready to be planted; below: distribution of the plants to the population

Photos: Augustin Rwimo



D. R. CONGO



The newly constructed patrol post

Photo: Augustin Rwimo

forestry species. The local population, the target group of the project, selected the following trees for planting: *Eucalyptus*, *Grevillea*, *Calliandra*, *Leucaena*, cypress, *Maesopsis* and *Markhamia*.

Support for monitoring: To support monitoring in Sarambwe, the project issued funds to the ICCN for food for patrols. The project covered the rangers' food rations for the whole of the last year; the funds for the current year will be transferred.



Poachers arrested in the Sarambwe Reserve

Photo: Augustin Rwimo

Ugandans who had invaded the reserve – claiming that they were on Ugandan soil – were forced to abandon their fields in September 2010. Of the estimated 400 ha they had occupied, 350 are regenerating.

Several poachers have been arrested, resulting in a decrease of poaching in the reserve. As a result, the gorillas have become more visible and signs of their presence have become more widely distributed over the reserve's 980 ha.

Regeneration has to be monitored such that forest can be restored and the fauna can be maintained. The number of Sarambwe rangers has been reduced as the Head of the Sarambwe post also uses local trackers for patrols, but the trackers do not receive incentives such as allowances or food rations.

Construction of patrol posts: As stipulated in the original project document, B&RD has funded the construction of a Sarambwe ranger post. Construction started in November and was completed in early December 2010.

Provision of food rations to the patrols: B&RD funding provided the patrols with food rations until the end of December 2010. The provision of rations made it possible to conduct continuous monitoring of the reserve.

Attack on Ranger Patrol in the Virunga National Park

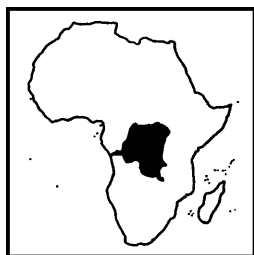
24 January 2011: Three rangers and five Congolese soldiers were killed during a violent attack on their patrol vehicle in Virunga National Park and three were injured. A rocket-propelled grenade hit the early morning patrol when it fell into an ambush just inside the park border. The rangers were being deployed along a road that passes through the national park in an attempt to secure a safe passage for the public.

The attackers, who escaped on foot, are believed to be FDLR militia. The attack is thought to have been carried out in retaliation for the destruction of two of their camps by park rangers in December 2010.

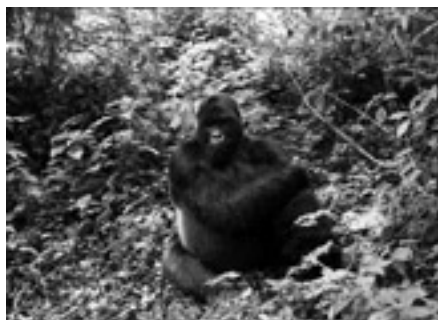
The attack took place about 100 km north of Goma. This is the worst attack on Virunga Park patrols in over a year. Park rangers and regular army units have been working together to secure the area within the national park known to be heavily frequented by FDLR militia.

According to Virunga National Park Director Emmanuel de Merode, 130 of Virunga's rangers have died since the beginning of the war in 1996.

From a Press Release of the Virunga National Park, ICCN



D. R. CONGO



One of the habituated gorillas from Bwindi on a visit in Sarambwe

Photo: Augustin Rwimo

Project Beneficiaries

A total of 479 people from the local population have benefitted directly from the project. In addition, several local schools have received seedlings for their school gardens: the Kisharu

primary school with 600 pupils, the Kasarabandwa primary school with 212 pupils and the Agricultural and Pedagogic Technical Institute of Kisharu with 200 students. The involvement of the local schools in seedling production has resulted in the establishment of school nurseries, an idea developed by the *Initiative Brousse* and WWF.

In order to determine how people have benefitted from the project, a short survey was conducted among 33 out of the 80 permanent workers. Their answers confirm that the project has helped them considerably:

- All workers have been able to pay the school fees for their children while they have been working for the project.
- Four workers invested in two to six

piglets, respectively, which have now developed into adult pigs. The sale of these pigs enables them to pay for school fees and other family expenditures.

- 20 mothers have organised themselves into associations and were able to pay for cuttings of improved disease-resistant varieties of manioc. Cultivation of the improved manioc is up to twice as profitable as the old varieties, not taking into account what is needed for food.
- Six workers have been able to buy corrugated iron sheets and roof their houses.
- Three workers have bought themselves plots of land along the main road.

Conclusions

The project has achieved 100% of targets for most planned activities, and exceeded 100% for the remainder. The infrastructure built up by the project, such as boundary plantings, monitoring trails, and tree nurseries, will continue to be used by the local population and the reserve staff. Thanks to the training they have received, the rangers, trackers and nursery attendants will be able to maintain their activities. The project has strengthened the relationship between the local population and Sarambwe Reserve, and it has prepared the ground for the establishment of school nurseries by WWF/PEVi (Environmental Programme for the Virungas).

Claude Sikubwabo Kiyengo

Government Suspends Oil Exploration in the Virunga National Park

17 March 2011: the Minister for the Environment, Nature Conservation and Tourism, José E. B. Endundo, announced that the Government of the Democratic Republic of the Congo had suspended the activities of the British oil company SOCO International for oil exploration in the Virunga National Park. Endundo initiated what he called "a comprehensive, transparent and inclusive" Strategic Environmental Assessment to analyze the best options available to the Congolese people. The process will last until early next year, according to a letter that the Minister sent to five international environmental organizations. It will provide the necessary recommendations to decide which of the social and economic benefits will ensure true development for the region and its people. The SEA will be conducted with support from a number of donors. With regard to the environmental impact assessment conducted by the project operator, SOCO International, Endundo stated that it is premature and does not conform to the standards one would expect.

With this decision the Government has finally yielded to pressure from various external partners to stop all oil activity in the Virunga National Park. UNESCO, which administers the Virunga National Park because it is a World Heritage Site, had delegated one of its top officials, Irina Bokova, to convince the Congolese Government. SOCO International holds exploration licenses on Block V of the Albertine Rift. Block V is an oil exploration concession assigned by contract to a consortium of three companies: SOCO, the implementing partner; Dominion Petroleum; and Cohydro. Over 50 percent of the concession lies within the Virunga National Park.

Status of Mountain and Grauer's Gorilla Orphans in Congo

Mountain Gorilla Orphans

On November 23, 2010, 9-year-old female Maisha and 7-year-old male Kaboko moved from the *Mountain Gorilla Veterinary Project's* (MGVP) orphan quarantine facility in Kinigi, Rwanda,



D. R. CONGO

to the Senkwekwe Center in Virunga National Park, Democratic Republic of the Congo. For Maisha and Kaboko, who were captured by poachers in Virunga National Park in 2004 and 2007, it was a homecoming. The two moved into a lush, enclosed forest area where they are semi-free ranging. When Maisha and Kaboko arrived, Ndeze and Ndakasi, 4-year-old females who were orphaned during the 2007 gorilla massacres in Virunga National Park, were living in Senkwekwe's smaller forest enclosure.

The ideal end goal for the orphans is reintroduction to the wild. However, this possibility will only be considered if and when the gorillas learn the skills they need to survive independently in the forest. The mountain gorilla conservation community believes that the gorillas' best chance for success in the wild would be to return as a family. In the past, attempts to return single captive gorillas to established gorilla families have failed.

Since February 19, 2011, MGVP's Gorilla Doctors and the Virunga National Park gorilla caretakers have been working to integrate the 4 orphans into a family unit. MGVP Regional Manager Jan Ramer, a veterinarian and former zookeeper with experience integrating captive primates, took the lead of integration process. For the first few days, Debby Cox, a primate expert from the *Jane Goodall Institute*, assisted. The man who knows the animals best, Virunga National Park Head Caretaker André Bauma, was also on hand to advise along with several other MGVP and Virunga National Park caretakers.

Integrating gorillas unknown to each other is a delicate and time-intensive process, especially with youngsters not accustomed to submitting to older, dominant animals. Serious injury and mental trauma could easily occur if the process is not carefully managed.

The first day of integration, Ndeze and Ndakasi were carried from their

enclosure into the night house where Kaboko and Maisha were waiting. The night house has 4 rooms, two on each side of a center aisle, which are connected via doors and tunnels that can be locked shut in order to separate the gorillas. The two younger gorillas were placed so that they could be across the aisle from Maisha and Kaboko that afternoon and night.

The plan for the first several days was to allow all 4 gorillas to mingle and get to know one another. Unfortunately, Ndakasi was very uncomfortable with the big gorillas and screamed whenever approached. Ndeze was more confident and would run toward Ndakasi as if to protect her whenever she screamed.

On the second day while Ndakasi was hiding in one of the hammocks, Maisha reached for her and Ndakasi fell to ground and lay stunned for several minutes. She recovered quickly with no sign of injury but the introductions were stopped for the day. The following morning Ndeze and Ndakasi were showing signs of stress. Introduc-

tions were stopped for a week, allowing the young gorillas time to adjust. It was apparent that Ndeze and Ndakasi, who were both brought into captivity as very young infants and had not been exposed to other gorillas since, needed to learn how to be submissive to older gorillas.

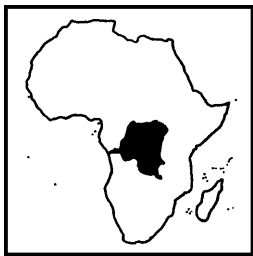
On March 12, Gorilla Doctors Jan Ramer, Eddy Kambale, Jacques Iyanya and MGVP and Virunga National Park caretakers renewed their work. After preparing enrichment items and lining the rooms with banana trees, all the doors and tunnels between the rooms were opened. Ndakasi screamed whenever approached by Kaboko, and Ndeze became excited and hyper-vigilant, challenging Kaboko. Kaboko became slightly aggressive, almost exasperated with Ndeze, and bit her several times, causing superficial wounds.

Things were calmer after Kaboko was separated from the group, however Ndeze and Ndakasi continued to move away from Maisha when she approached. The next morning, it was decided Kaboko would remain separated.



Jan Ramer examines wounds on Ndakasi's hand.

Photo: Molly Feltner/MGVP



D. R. CONGO



After a long integration process, Maisha and Ndeze are finally friends

Photo: Molly Feltner/MGVP

Jan Ramer hoped that if the 3 females could form a bond, Maisha could act as protector when Kaboko was introduced. Together, Maisha behaved very appropriately but Ndakasi remained fearful while Ndeze refused to submit to Maisha's authority. However, the interactions were much more calm.

For the next week, the females were kept together during the day and separated at night. As Ndeze and Ndakasi slowly learned their position in the hierarchy, the 3 were eventually allowed to remain together 24 hours a day. Ndeze and Maisha formed a bond, even sleeping and cuddling together. Ndakasi calmed down, but preferred the company of Ndeze over Maisha.

On April 11, Kaboko was allowed in with the females. Maisha took up her role as protector, exactly as everyone had hoped. Ndakasi was appropriately submissive to Kaboko, while Ndeze whined a bit at Kaboko's approach. For the first hour or so, Maisha watched everything, and placed herself between Ndeze and Kaboko when things seemed to escalate. At one point she sat in the door between the 2 rooms while Ndeze and Ndakasi relaxed with Kaboko in the other room.

Sometimes all Maisha had to do

was put out her arm or even glance at Kaboko to express her displeasure, and he ceased his pursuit of the girls. Of course, there was a bit of rough and tumble play, especially between Kaboko and Ndeze, and Kaboko really seemed happy. After the first hour or so, things really calmed, and the group could be found resting quietly, all in the same room. Finally, success! The electric fence for the outdoor enclosure was broken, but as soon as it can be fixed the 4 orphans will be allowed outside together.

Grauer's Gorilla Orphans

Sadly, two new Grauer's gorilla orphans have come into MGVP's care after separate poaching incidents in Congo. On December 27, infant male Kyasa was confiscated from the Walikale area by MGVP partners *Dian Fossey Gorilla Fund International* (DFGFI) and UGADEC. He was flown to Goma where Gorilla Doctor Eddy Kambale met him and his caregiver. Kyasa was frightened, but at 6 months old, he seemed to be much more trusting of his caregivers than orphans who are confiscated at an older age.

Kyasa was found to be in amazingly good health, although he had some serious wounds on his sides where a leash had been tied. He settled into his temporary home in Goma with two DFGFI caregivers for his quarantine period of 30 days. He passed his quarantine examination with flying colours and was able to fly to the new Grauer's gorilla rehabilitation center, the Gorilla Rehabilitation And Conservation Education (GRACE) center in Kashugo, Democratic Republic of the Congo, which is operated by DFGFI and Disney's Animal Kingdom.

In late March we received word that another male Grauer's gorilla was confiscated in Lubutu, Congo, by the Congolese Wildlife Authority (ICCN). Maïko National Park Chief Park Warden Paulin Wilondja-As-Ngobobo has been



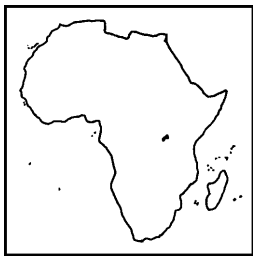
Baby Kyasa after being confiscated

Photo: Eddy Kambale/MGVP

working on this confiscation and breaking up the poacher network in that area since October.

Gorilla Doctor Eddy Kambale travelled to Lubutu to examine the orphan, who was being looked after by ICCN caregivers. The orphan, named Lubutu, about 2 years old, was extremely malnourished, and suffering from hair loss and mental trauma. After being given milk, water, and fruit Lubutu began to improve. Eddy Kambale flew with the orphan to Goma, where he stayed at a temporary facility on UGADEC office grounds before transferring to GRACE. The Gorilla Doctors performed a thorough examination on Lubutu. Although suffering from a number of ailments, he is expected to make a full recovery. DFGFI Confiscated Gorilla Manager Sandy Jones travelled with Lubutu to GRACE where he will undergo a 30 day quarantine before being introduced to the family of 5 gorillas already living there – Mapendo, Amani, Kighoma, Djingala and Kyasa.

Molly Feltner



RWANDA

Human Metapneumovirus Infection in Wild Mountain Gorillas, Rwanda

The genetic relatedness of mountain gorillas and humans has led to concerns about interspecies transmission of infectious agents. Human-to-gorilla transmission may explain human metapneumovirus in 2 wild mountain gorillas that died during a respiratory disease outbreak in Rwanda in 2009. Surveillance is needed to ensure survival of these critically endangered animals.

The world's remaining 786 mountain gorillas (*Gorilla beringei beringei*) live in 2 areas in Rwanda, Uganda, and the Democratic Republic of the Congo. An ecotourism industry for viewing human-habituated mountain gorillas in the wild is thriving in all 3 countries. Mountain gorilla tourism helps ensure the sustainability of the species by generating much-needed revenue and increasing global awareness of the precarious status of this species in the wild. Tourism, however, also poses a risk for disease transmission from humans to the gorillas.

Habitat encroachment and poaching are threats to wildlife survival, particularly in the developing world. Mountain gorillas face an additional threat from infectious diseases. Second only to trauma, infectious diseases, primarily respiratory, account for 20% of sudden deaths. Because of the close relatedness of gorillas and humans, infectious agents may be transmitted easily. Although most surveillance efforts focus on risk for humans, mountain gorillas are immunologically naive and susceptible to infection with human pathogens. The parks in which mountain gorillas live are surrounded by the densest human populations in continental Africa. In addition, research and gorilla ecotourism brings thousands of persons from the local communities and from



Every few days during the outbreak some gorilla was darted with antibiotics.

Photo: Magdalena Braum

around the world into direct and indirect contact with the gorillas. The frequency and closeness of contact is particularly pronounced in the Virunga Conservation Area, where 75% of mountain gorillas are habituated to the presence of humans.

From May through August 2008, sequential respiratory outbreaks occurred in 4 groups of mountain gorillas accustomed to tourism in Rwanda. Between June 28 and August 6, 2009, a fifth outbreak occurred in one of these groups, Hirwa. In a detailed study, we described the Hirwa outbreak. Respiratory outbreaks were defined as more than one third of animals in a group exhibiting signs of respiratory disease (coughing, oculonasal discharge, and/or lethargy).

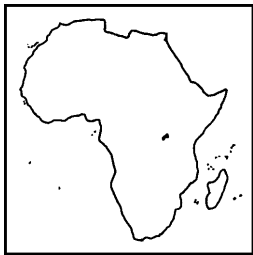
The Cases

The Hirwa group consisted of 12 animals: 1 adult male, 6 adult females, 3 juveniles, and 2 infants. Moderate to severe respiratory disease (≥ 2 characteristic signs) developed in 11 of 12 animals. Five (3 juvenile males and 2 adult females) received antimicrobial drug therapy (ceftriaxone, 50 mg/kg for adults, 100 mg/kg for infants), 4 by remote delivery and 1 while chemically immobilized. Two untreated animals (1 adult female and 1 male infant born to a symptomatic mother) died. On June 30, the adult female was first observed

coughing and lethargic but still feeding. On July 3, she left her night nest in the morning but did not join her group; she exhibited severe clinical signs and was found dead on July 4 at ≈ 1.00 pm. The infant was 3 days old when it died on July 23. Clinical signs of respiratory illness had not been observed, although its mother showed severe clinical signs for 2–3 days before and after delivery; before delivery, she had received antimicrobial drugs by remote delivery (neither she nor her infant were handled by humans).

Gross postmortem examinations revealed bronchopneumonia in the adult and unilateral pulmonary congestion and an empty stomach in the infant. Histologically, the respiratory tract of the adult was characterized by moderate mononuclear tracheitis, laryngitis, and air sacculitis; severe pulmonary alveolar histiocytosis; multifocal severe suppurative pneumonia; and multifocal pulmonary thrombosis and hemorrhage. One section of lung from the infant showed pulmonary atelectasis, congestion, mild alveolar hemorrhage, and histiocytosis. The infant also had moderate neutrophil and macrophage infiltration of the umbilicus at the body wall; neutrophilic inflammation in the media and adventitia of an umbilical artery at the level of the bladder; and mild, unilateral, focal, segmental, neutrophilic glomerulitis and tubulointerstitial nephritis. Coronary groove and mesenteric fat were absent.

Multiplex PCR analysis for respiratory pathogens indicated sequences of human metapneumovirus (HMPV) in serum, lung tissue, and throat, nose, anus, and vagina swabs from the adult gorilla, and in lung tissue from the infant. *Streptococcus pneumoniae* was detected in lung tissue and in throat and nose swabs of the adult gorilla but not in the infant. *Klebsiella pneumoniae* was also detected in all specimens from the adult gorilla. Simple pairwise analysis indicated that the strain be-



RWANDA



Mararo grooming her sick son Impundu

Photo: Magdalena Braum

longed to lineage B2 of HMPV. Bayesian analysis revealed close relationship of the gorilla virus to human isolates from South Africa.

Conclusions

Experimental infections of cynomolgus macaques with HMPV have suggested that pure infection with this virus causes minimal to mild lesions in conducting airways and increased macrophages in alveoli. However, paramyxoviruses, including HMPV, can predispose animals to bacterial pneumonia, as appeared to be the case in the adult female mountain gorilla reported here. That HMPV can be fatal for gorillas is supported by a report of a respiratory outbreak in wild, human-habituated chimpanzees in which several chimpanzees died.

This report shows conclusive evidence for association of a human virus with death in mountain gorillas. Viral RNA in multiple tissue samples from the adult female indicates that she was infected by an HMPV strain at the time of her death. The upper respiratory le-

sions were suggestive of a viral infection. The pulmonary lesions indicated a bacterial bronchopneumonia as the proximate cause of death, compatible with an etiologic agent such as *S. pneumoniae* and *K. pneumoniae*, the organisms detected by PCR. Although the cause of death of the infant was likely inanition and acute dissemination of an umbilical infection to a kidney, detection of HMPV as the sole pathogen in the infant tissues supports the presence of this agent in the gorilla group during the respiratory disease outbreak.

The source of the virus is unknown; the strain was most recently described in South Africa. The 2 HMPV-positive animals were not handled by veterinarians or park personnel during the course of their illness. Although HMPV transmission as a result of human intervention to treat sick animals in the group is possible, it does not explain HMPV in the adult female, who died early in the outbreak before any clinical interventions were conducted. Although human proximity to mountain

gorillas is essential for their conservation, it is also crucial to minimize the risk for human-to-great ape transmission of respiratory pathogens.

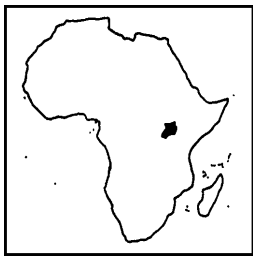
Original publication: Palacios, G., Lowenstine, L. J., Cranfield, M. R., Gilardi, K. V. K., Spelman, L., Lukasik-Braum, M., Kinani, J.-F., Mudakikwa, A., Nyirakaragire, E., Bussetti, A. V., Savji, N., Hutchison, S., Egholm,

Virunga Gorilla Conservation

The Virunga gorillas are an extreme gorilla population in many respects – and especially regarding the methods to protect them. Their number has increased considerably despite constant pressure.

In a new study the reasons for this success are referred to as “extreme” measures, i.e. the continuous guarding of habituated groups and intense veterinary treatment. While unhabituated groups showed a negative growth rate, habituated groups developed very positively – especially with veterinary interventions. The daily monitoring of the groups was particularly important. Data from 1971 to 2003 showed that the positive effects of habituation outweighed the negative effects. The authors concluded that conventional conservation efforts prevented a severe decline of the overall population, but additional extreme measures were needed to achieve positive growth.

Original publication: Robbins, M. M., Gray, M., Fawcett, K. A., Nutter, F. B., Uwingeli, P., Mburanumwe, I., Kagoda, E., Basabose, A., Stoinski, T. S., Cranfield, M. R., Byamukama, J., Spelman, L. H. & Robbins, A. M. (2011): Extreme Conservation Leads to Recovery of the Virunga Mountain Gorillas. PLoS one 6 (6), e19788



UGANDA

M. & Lipkin, W. I. (2011): Human Metapneumovirus Infection in Wild Mountain Gorillas, Rwanda. *Emerging Infectious Diseases* 17 (4), 711-713

Bwindi Gorilla Killed by Poachers

On 17 June, the 12-year-old black-back gorilla Mizano from the Habinyanja group died of injuries he sustained after he was speared by poachers. Shortly afterwards, the poachers were tracked with sniffer dogs and 3 men were arrested in a town near the park. They had been in the park to hunt for duikers. At least 4 others were pursued by UWA (*Uganda Wildlife Authority*) and the local police.

From articles published in the Ugandan newspapers The Monitor and New Vision as well as by AWF

Primate Pathology

The initial role of the Gorilla Pathology Study Group (GPSG) is to establish and strengthen contact between those

in East and Central Africa who already have an interest in the pathology of gorillas or would like to gain experience and confidence in this discipline. Such contact, primarily by email, will lead to the exchange of information about post-mortem and clinical pathology findings and should facilitate the proper and systematic collation of data. This information can then be made available to those elsewhere, especially in the field, who need to apply it to the promotion of the health, welfare and conservation of free-living gorillas.

In 2011 the GPSG will organise a Workshop. This will be held in Kenya and Uganda and its theme will be "Primate Pathology", with particular, but not exclusive, reference to the health of free-living animals. It will provide opportunities for members of the GPSG to meet, to confer and to plan the future aims and directions of the group. Others with an interest in the subject will also be invited to attend the workshop.

Anyone who is interested in the GPSG and who thinks s/he might be eligible to become a member or to be kept in touch with developments should contact a coordinator at one of the group's addresses:

- John E Cooper: ngagi2@gmail.com
- Lee Koma: lee_koma@yahoo.com
- OgetoMwebi: ogeto_mwebi@yahoo.com

All enquiries will be answered and an application form or further information will be sent to interested persons on request. Comments and suggestions are welcome and can be submitted in either English or French.

Although membership of the GPSG is at present restricted to those living in or having close and regular contact with Africa, we are keen to be in touch with others who have an interest in the health and pathology of gorillas. To this end, we are compiling a list of GPSG "Links" and we shall send relevant literature from the group to those on that list.

Species Conservation: Calendar 2012

TIPP 4 GmbH (Rheinbach, Germany) in cooperation with druck-partner Print- and Mediahouse GmbH (Essen, Germany) will publish an exquisite and impressive calendar for 2012 within the framework of the nature and species conservation media project "Mondberge".



- limited edition: 2012 copies for the year 2012
- the full profit is contributed to species conservation (to 4 NGOs, one of them is B&RD).
- the best what is found in printing technology
- until August: subscription price Euro 79,90, from September: Euro 99,90 (incl. 19 % VAT). Delivery of calendars ordered in advance will be in September 2011. Packing and postage: Euro 9,90 additionally. Special conditions for higher quantities upon request.
- completely new binding and reusable fixture made from wood
- format 68 x 71 cm
- orders at TIPP 4
phone: +49 (0) 2226 911799
fax: +49 (0) 2226 908422
online via www.mondberge.com

Gorilla Pathology Study Group (GPSG)

"Primate Pathology"

Two separate Workshops, to be held in Kenya and Uganda respectively in late November 2011.

In collaboration with the Pan-African Sanctuary Alliance (PASA)

Coordinators:
Professor John E Cooper, Dr Lee Koma, Mr Mwebi Ogeto
Hon Sec: Sally Dowsett, email: sally.dowsett@ch.ac.uk

enquiries to: ngagi2@gmail.com



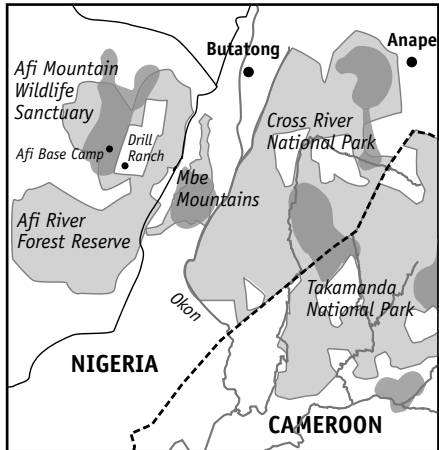
CROSS RIVER

Renovation of Base Camp at Afi Mountain Wildlife Sanctuary

Afi Mountain Wildlife Sanctuary is the most westerly of three sites in Nigeria where Cross River gorillas occur, the other two sites being the Mbe Mountains and Cross River National Park. The sanctuary is managed by the Cross River State Forestry Commission with support from a number of NGOs including the *Wildlife Conservation Society* (WCS). A dedicated team of rangers carry out regular anti-poaching patrols and collect data used for monitoring of the Afi gorillas. Covering only 100 km², Afi is not large, but it is very rugged with peaks rising to 1,300 m. Rangers need base camps inside the sanctuary from which to launch anti-poaching patrols and to provide effective protection for the 25–30 gorillas which survive here.



Above: the new sleeping shed at Afi base camp; below: the renovated communal shed at Afi base camp
 Photos: Inaoyom Imong



The original base camp on Afi (then only a forest reserve) was established in 1996 by Kelley McFarland, who started the first long-term study of Cross River gorillas at Afi. Later on, with support from *Fauna and Flora International*, this camp was used as a base for protection and monitoring activities by rangers. Growing awareness of the importance of Cross River gorillas encouraged Cross River State Government to create a wildlife sanctuary in 2000 to protect Afi's remaining gorillas.

With funding support from *Berggorilla & Regenwald Direkthilfe* the original tented camp was rebuilt in 2005, but in recent years the building deteriorated and, in a poor condition, threatened to collapse. Thankfully *Berggorilla & Regenwald Direkthilfe* have come to the rescue once again, and with additional funds the camp was completely rebuilt by WCS in 2011. Progress on the renovation work was slow and difficult since all wood and other building materials had to be carried by porters as head loads through the rugged terrain. The newly renovated base camp greatly facilitates gorilla research and protection activities, and now has two, relatively more comfortable, sleeping sheds, which can accommodate more people than previously possible. Improved camping facilities in the sanctuary have also helped raise morale

among rangers and other field staff and hopefully will enhance their performance. We are grateful to *Berggorilla & Regenwald Direkthilfe* for their financial support that made the improvement of camping facilities in the Afi Mountain Wildlife Sanctuary possible.

Inaoyom Sunday Imong

Afi Mountains: on the Trail of the Cross River Gorillas

I worked for one month, in January 2011, as a vet intern at the Limbe Wildlife Centre (LWC) in Cameroon and one month at *Pandrillus* in Nigeria. The LWC is managed jointly by the Cameroonian Government and *Pandrillus*, a Nigerian NGO. For some years now, *Pandrillus* has been successfully breeding the highly endangered drill in captivity at the Drill Ranch. The programme includes a reintroduction project in the Afi Mountains.

The Drill Ranch consists of 6 large enclosures for the drills and one for



Good Luck in his natural habitat
 Photo: Dirk Jörgens



CROSS RIVER



Good Luck

Photo: Dirk Jörgens

chimpanzees. As it happened, a young Cross River gorilla (*Gorilla gorilla diehli*) had been caught in a snare near a village not long before I arrived but, fortunately, it had been freed by *Pandrilus* staff and taken to the ranch. As he did not end up as bushmeat in a cooking pot, he was given the name “Good Luck”.

Good Luck was kept separate from people as much as possible, the only exception being his caretaker. For about 8 hours every day he roamed freely in the forest with his caretaker, learning to find natural foods and to move in his natural surroundings. I took on this job when the caretaker was off duty. It was a unique experience. I learnt a lot about gorilla behaviour – I had to, as the gorilla, as young as he was, already had a will of his own and tried to get his own way!

So, here I was in the habitat of the Cross River gorillas. Well, not quite – I still had to climb the mountains if I wanted to see them. So I found an experienced gorilla tracker and off we went. After a strenuous ascent we reached the base camp, which would serve as a

starting point for our search during the next few days.

For the first two days we scrambled through impenetrable thickets up and down the mountain. Our clothes and arms were torn up by countless thorns, but we did not see anything much except relatively old gorilla dung, night nests and the unique forest. I must admit that although I am experienced in hiking in rain forest the steepness and roughness of the Afi Mountains took a lot out of me. It was one of the most difficult treks of my life – but at the same time one of the most beautiful.

The tracker decided that the gorillas must be on the opposite side of the mountain from where we had been looking for them during the first two days. He therefore suggested that we should go back down the mountain on



Dirk Jörgens hiking up the mountain



Above: food spat out during flight; below: fresh gorilla dung with fruit seeds

Photos: Dirk Jörgens

the third day not the way we had come up but through the area where he suspected the gorillas to be. Shortly after we had started from the base camp, at around 9 am, the tracker motioned to me to be quiet. That mostly meant stop walking: walking during the dry season means making a lot of noise due to the dry foliage underfoot.

As soon as I'd stopped walking, I could hear a group of gorillas fleeing down the slope to our left. When we continued we heard more sounds of large animals very close by on our right, but these also fled when we approached them.

About 20 m from the location where we had stopped the first time, we saw the first fresh gorilla dung, urine and feeding traces. One of the gorillas had even spat out his breakfast – chewed up leaves – during his flight. Shortly after that we found the first fresh night nest, and more and more gorilla dung. Almost all the dung contained seeds of



CROSS RIVER

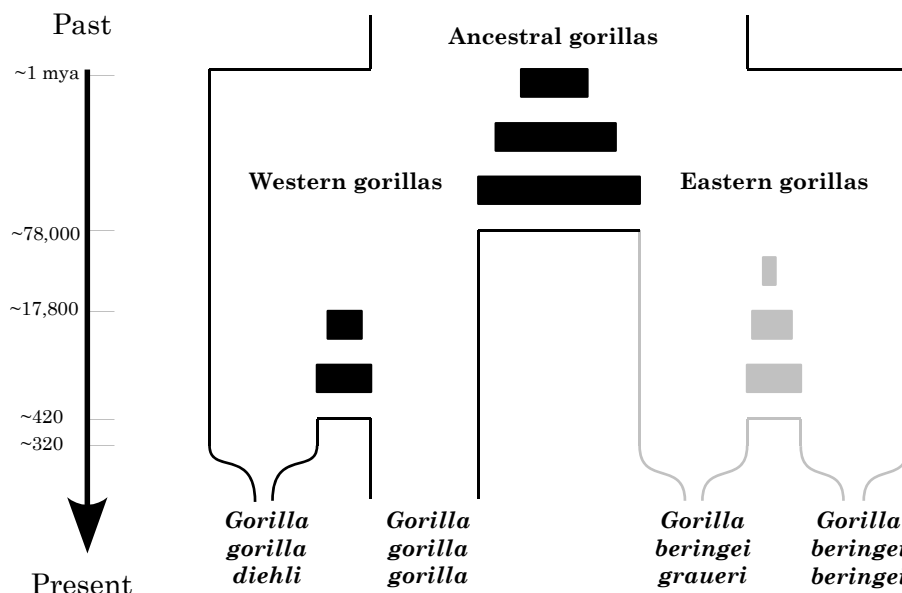
a small red fruit which was ripe at that time and which was obviously one of the favourite food plants of the gorillas (Good Luck also liked them). We counted a total of 17 gorilla nests built on high rocks, in trees, in vines, and one on the ground. Most of them were single, but some were close together or large enough to offer space for more than just one gorilla. I collected a few hairs for later DNA analysis.

Although I had missed them by seconds, few foreign visitors had managed to get so close. It was a wonderful feeling! The subsequent descent down the rest of the mountain, without any trails to speak of, was very difficult and tiring. Although I had not been able to see the gorillas in the wild this time around, it had been a unique experience.

Dirk Jörgens

A New Genetic Perspective on the Evolutionary History of Gorillas

Over the last two decades genetic studies have greatly influenced our understanding of the complex evolutionary history of one of our closest living relatives – the gorilla (Garner & Ryder 1996; Anthony et al. 2007; Thalmann et al. 2007). The contemporary distribution of gorillas in equatorial Africa features a pronounced gap of several hundred kilometers between western (*Gorilla gorilla*) and eastern gorillas (*G. beringei*), yet these two species retain behavioural and morphological similarities and were until recently considered subspecies of the same species (Harcourt & Stewart 2007; Groves 1967). Whereas previous genetic studies provided valuable insights into the history of gorillas on an interspecific level (Thalmann et al. 2007; Thalmann et al. 2005), little is known about the intraspecific evolutionary dynamics of gorilla populations.



Schematic depiction of the evolutionary histories of gorillas

Times are given in years and represent mode values of parameter distributions which are associated with large confidence intervals. The filled boxes indicate barriers to progressively decreasing gene flow between populations. The gray shading of eastern gorillas should imply that not much is known about the demographic history of these particular gorillas but investigations are underway.

The focus of our most recent study was a comprehensive assessment of the evolutionary histories of the broadly distributed population of western lowland gorillas (*G. g. gorilla*) and the range-restricted, critically endangered, Cross River gorillas (*G. g. diehli*). While some tens of thousands of western lowland gorillas exist, Cross River gorillas number less than 300 individuals found only in highland areas along the Nigeria–Cameroon border (Oates et al. 2007). Previous genetic analyses of these gorillas using multiple autosomal microsatellite loci applied to DNA derived from non-invasively collected fecal samples suggested a recent and/or severe population decrease (Bergl et al. 2008). We built upon this work by generating comparable historical data using DNA obtained from 100-year-old Cross River gorilla museum specimens and comparing the diversity present a

century ago and today (Bergl & Vigilant 2007). Our findings suggest that higher genetic diversity was present in the recent past.

We also looked at the deeper demographic history of Cross River gorillas by comparing how well our data supported two different scenarios describing how western lowland gorillas and Cross River gorillas became separate populations. One possibility is that the populations diverged, but at some later point had secondary contact before finally becoming separate once more. Another scenario suggests that the populations diverged but continued to exchange migrants for some time. The theoretical models for each scenario allowed for a severe, recent population decline in the Cross River population and incorporated contemporary and museum samples appropriately. We found that the scenario of second-



CROSS RIVER

any contact was not supported, and that the scenario of divergence and continued gene flow was consistent with our data.

These results contribute to a more complete understanding of the evolutionary history of gorillas. An initial split of western and eastern gorillas about one million years ago was accompanied by bidirectional gene flow until approximately 78,000 years ago (Thalmann et al. 2007). Some 17,800 years ago, western lowland and Cross River gorillas diverged but substantial gene flow (~ 4 individuals per generation) between the two western gorilla subspecies ceased as recently as 420 years ago. A marked decline of Cross River gorilla population size began only about a hundred years later. In contrast, the population size of western lowland gorillas increased after the divergence from the Cross River gorillas. These events, along with the signals of likely population structure in the ancestral western gorilla population (Thalmann et al. 2007), are consistent with a scenario of changing climate conditions over the late Pleistocene that led to repeated expansion and contraction of forests, and hence of forest-dwelling ape populations, as well as more recent increased anthropogenic impact. Hunting of gorillas continues today and represents one of the greatest threats to their survival (Oates et al. 2007). Particularly for small populations that may have gone through recent reductions in size, effective enforcement of anti-poaching laws and maintenance of existing habitat to allow the population to stabilize and expand is crucial to their future survival.

Olaf Thalmann, Richard A. Bergl and
Linda Vigilant

Original publication: Thalmann, O., Wegmann, D., Spitzner, M., Arandjelovic, M., Guschanski, K., Leuenberger, C., Bergl, R. A. & Vigilant, L.: Historical sampling reveals dramatic demographic changes in western gorilla populations. *BMC Evolutionary Biology* 2011, 11:85

References

- Anthony, N. M. et al. (2007): The role of Pleistocene refugia and rivers in shaping gorilla genetic diversity in central Africa. *Proc. Natl. Acad. Sci. U. S. A.* 104 (51), 20432–20436
- Bergl, R. A. & Vigilant, L. (2007): Genetic analysis reveals population structure and recent migration within the highly fragmented range of the Cross River gorilla (*Gorilla gorilla diehli*). *Mol. Ecol.* 16 (3), 501–516
- Bergl, R. A. et al. (2008): Effects of habitat fragmentation, population size and demographic history on genetic diversity: The Cross River gorilla in a comparative context. *Am. J. Primatol.* 70 (9), 848–859
- Garner, K. J. & Ryder, O. A. (1996): Mitochondrial DNA diversity in gorillas. *Mol. Phylogenet. Evol.* 6 (1), 39–48
- Groves, C. P. (1967): Ecology and taxonomy of the gorilla. *Nature* 213 (5079), 890–893
- Harcourt, A. H. & Stewart, K. J. (2007): Gorilla society: What we know and don't know. *Evolutionary Anthropology: Issues, News, and Reviews* 16 (4), 147–158
- Oates, J. et al. (2007): Regional action plan for the conservation of the cross river gorilla (*Gorilla gorilla diehli*) (IUCN/SSC Primate Specialist Group and Conservation International, Arlington, VA, USA)
- Thalmann, O. et al. (2007): The complex evolutionary history of gorillas: Insights from genomic data. *Mol. Biol. Evol.* 24 (1), 146–158
- Thalmann, O. et al. (2005): Nuclear insertions help and hinder inference of the evolutionary history of gorilla mtDNA. *Mol. Ecol.* 14 (1), 179–188



Posters that Bethan Morgan designed for a public awareness campaign in the communities near the Ebo Forest. They explain basic facts about gorillas and state that it is strictly forbidden to kill them.

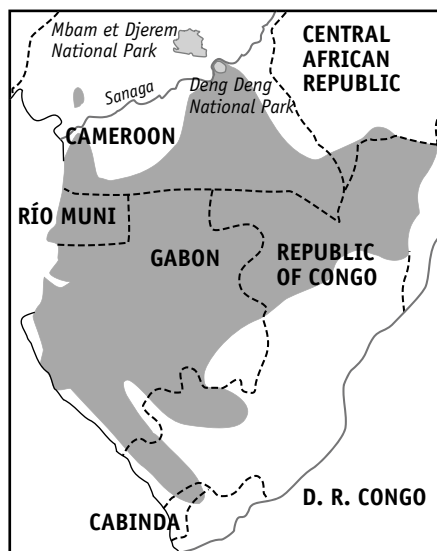


GORILLAS

Gorilla Population in Deng Deng National Park and a Logging Concession

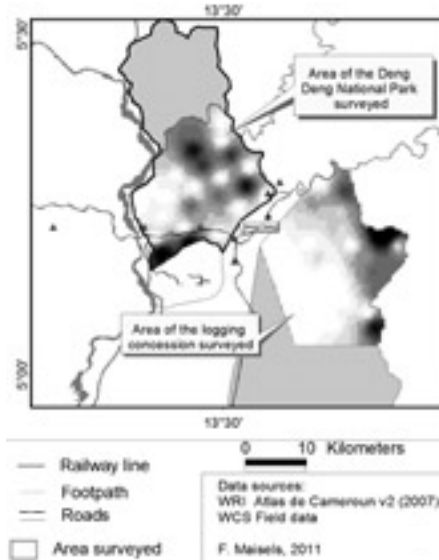
Deng Deng – Previous Surveys

In 1998 an environmental impact survey of a proposed oil pipeline route from Chad to Cameroon was commissioned by the Cameroon Oil Transportation Company, COTCO (Dames & Moore 1999). The survey revealed that an area along the pipeline known as Deng Deng, a forest block physically separated by savannas and agricultural lands from most of the forests of southern Cameroon, harboured interesting populations of large mammals, including elephants, chimpanzees and western lowland gorillas (*Gorilla gorilla gorilla*), plus a variety of animals from both forest and savannah habitats (Dames & Moore 1999), reflecting the mosaic of savannah and forest found at these



Location of the Deng Deng and Mbam et Djerem National Parks in Cameroon and Gorilla gorilla gorilla distribution

Map: Angela Meder, produced with information by F. Maisels



Distribution of gorilla nests in the survey (stippled area). The darker the stipples, the higher the nest density.

latitudes in Cameroon. These gorillas are the most northerly population of western lowland gorillas in existence. Only the Cross River gorillas (*Gorilla gorilla diehli*) range further north.

Subsequent surveys by WCS Cameroon focused on two areas identified by the first impact assessment surveys (the Deng Deng Sanctuary and the Belabo Communal Forest). Results suggested that these areas still maintained viable populations of both gorillas and chimpanzees, and that the conservation value of the area merited its gazetting as a protected area (Fotso et al. 2002). Deng Deng lies just to the east of the Mbam et Djerem National Park, which was gazetted in 2000, but which has no gorillas. Deng Deng and Mbam et Djerem are separated by the Sanaga River, a major biogeographical barrier in the region, already noted for chimps (Gonder et al. 2011) and other species.

More surveys in parts of the same general area were carried out in 2004 and 2007, this time as environmental

impact studies for the proposed Lom-Pangar dam just to the east (Monfort et al. 2007). The encounter rate of both chimp and gorilla nest group sites had not changed since the 2002 study: an encouraging finding which underlined the support that should be given to the creation of a protected area in the location of Deng Deng.

A comprehensive study of all of the available likely forest that could be reasonably gazetted as a protected area was then carried out by WCS in 2008 (Maisels et al. 2009), to draw up suggestions for both the exact location of the most important areas for great apes (especially gorillas) and what type of management should be carried out there. The areas covered included what would soon become the Deng Deng National Park, the existing Communal Forest of Belabo, and a large logging concession, UFA 10065. The results helped to locate where the main populations of gorillas resided.

The 2010 Survey

In early 2010, as a function of the results of the earlier studies, the Deng Deng National Park was created (*Décret No 2010/0482 pm du 18 Mars 2010 portant création du Parc National du Deng Deng*), covering 523 km². To estimate great ape density, especially gorillas, a transect-based survey was carried out by WCS Cameroon, covering the areas where they were known to occur, i.e. the park south of the Lom River, and the northern part of the adjacent logging concession UFA 10065, which seemed to be the stronghold of the apes in these forests. Survey methods followed the *IUCN Best Practice Guidelines* and are standard for great apes (Buckland et al. 2001; Kühl et al. 2008; Maisels 2008; Maisels et al. 2008), using a combination of the DISTANCE and ArcView computer programs (ESRI 2000; Thomas 2009). A survey design was drawn up that covered the park and the north of the



GORILLAS

logging concession, with a total effort of 136 km of transects. The survey team comprised the experienced wildlife team leader Rufin Ambahe, who had been trained in a 10-week intensive university-level training course in 2005 (Maisels 2005), and experienced local assistants. A total of 100 ape nest sites (312 individual nests) were recorded, of which over half were definitely made by gorillas.

Density

Gorilla nest site density was relatively high: 49 sites/km² (95% confidence limits 29–84; c.v. 27%). We used a very conservative decay rate of 221 days, which suggested that overall gorilla density was about 0.67 (0.39 to 1.17), translating to about 540 (311 to 948) gorillas in the whole area studied, divided roughly equally between the park and the logging concession. Thus, even using the smallest number of gorillas calculated for the whole area (311), if half of them are in the park, then there are at least 150 gorillas in Deng Deng National Park and another 150 in the area of the concession that was surveyed. Gorilla nest group encounter rates – and indeed estimated gorilla densities – were comparable to some of the (unhunted) national parks in Gabon (see Aba'a & Bezangoye 2007; Bezangoye & Maisels 2010; Maisels et al. 2010).

Human impact

Human sign was far commoner than for any wildlife species (half of all signs recorded both inside the park and the logging concession). Gunshots, snares and shotgun shells were recorded throughout the area (park and logging concession). One hunting camp was found inside the park, and two more in the logging concession. An unmapped active road was recorded along the eastern side of the park. Tree cutting was very common, especially in the west and south of the national park

near the railway line (and of course in the logging concession).

Because the park and the logging concession are separated by a road, and gorillas can and do cross it, antipoaching and conservation education measures will be undertaken in the villages along that road to ensure that people do not shoot gorillas. Conservation action in the logging concession is also vital to maintain this small, but healthy, gorilla population.

Fiona Maisels, Rufin Ambahe, Edgar Ambassa, Bernard Fosso, Jean-Bosco Poumegne and Roger Fotso

WCS is grateful to Cameroon's Ministry of Forestry and Wildlife, and the French Development Agency AFD for working to protect the gorillas over the past 3 years.

References

- Aba'a, R. & Bezangoye, A. (2007): Wildlife and human impact monitoring, Birougou National Park, Gabon. Final report. WCS
- Bezangoye, A. & Maisels, F. (2010): Great ape and human impact monitoring in the Lopé-Waka Exceptional Priority Area, Gabon. Part 1: Lope National Park. GACF Agreement: 98210-8-G529. Final performance report to USFWS, p. 62. WCS
- Buckland, S. T. et al. (2001): Distance sampling: estimating abundance of biological populations. Oxford (Oxford Univ. Press)
- Dames & Moore (1999) Etude sur les ressources Biologiques – Cameroon. Document Annexe. In: Projet d'exportation Tchadien
- ESRI (2000): ArcView 3.2. Redlands, CA (Environmental Systems Research Institute)
- Fotso, R. et al. (2002): Distribution and conservation status of the gorilla population in the forests around Belabo, Eastern Province, Cameroon, p. 59. Cameroon Oil Transportation Company (COTCO)
- Gonder, M. K. et al. (2011): Evidence from Cameroon reveals differences in the genetic structure and histories of chimpanzee populations. *Proceedings of the National Academy of Science* 108, 4766–4771
- Kühl, H. et al. eds. (2008): Best Practice Guidelines for Surveys and Monitoring of Great Ape Populations. Gland (IUCN)
- Maisels, F. (2005): Conservation methods for wildlife inventory and monitoring. Training course: 1 June–7 August 2005, Training Centre, Lopé National Park, Republic of Gabon, p. 11. WCS
- Maisels, F. (2008): Section 3: Survey design. In: Kühl, M. et al. (eds.) Best Practice Guidelines for Surveys and Monitoring of Great Ape

Populations, p. 16. IUCN Ape Species Specialist Group

Maisels, F. et al. (2008): Section 5: Field Issues: Logistics and data collection protocols. In: Kühl, M. et al. (eds.) Best Practice Guidelines for Surveys and Monitoring of Great Ape Populations. IUCN SSC Primate Specialist Group (PSG).

Maisels, F. et al. (2010): Final report, second cycle of monitoring in Ivindo National Park and southern buffer zone. Final Report to US-FWS-GACF Agreement: 98210-7-G297, p. 71. WCS

Maisels, F. et al. (2009): Summary of the wildlife and human impact surveys of the Deng Deng area, 2008, p. 25. WCS

Monfort, A. et al. (2007): Etude visant renforcer les connaissances des populations de grands primates en forêt de Deng Deng, p. 28 + annexes. ISL-OREADE-BRECHE-SOGREAH

Thomas, L. et al. (2009): Distance 6. 0. Release 2. St. Andrews (Research Unit for Wildlife Population Assessment, University of St. Andrews)

Dedicated to

Ymke Warren, who organised the Deng Deng recce surveys which resulted in the creation of the Deng Deng National Park in Cameroon.

She loved gorillas and the forests, and will be remembered by everyone who worked with her.

Two Gorilla Killers Arrested in Republic of Congo

Two men were recently arrested in the Kabo forestry concession in northern Republic of Congo for hunting a gorilla. The hunt was carried out during the closed hunting season, with an illegal weapon, despite the fact that the gorilla is an "integrally protected species," the highest level of protection the law offers wildlife in Congo. The gorilla was killed for bushmeat.

While laws in the Republic of Congo are quite good on paper, putting them into practice is a long battle with many obstacles along the way. PALF, a project collaborating with Congo's ministry in charge of wildlife, is pushing for more rigorous application of wildlife



GORILLAS

laws. History shows us that very frequently such illegal poachers benefit from a certain impunity resulting from corruption, lack of will to enforce wildlife laws, or lack of resources to apply them. Such a poacher might be arrested, but freed very soon afterwards without even seeing the inside of a courtroom. Without fear of serious repercussions, poachers are unlikely to provide information to authorities about the traffickers who hired them, or those they sell to, either. The ramifications of a weak legal system are endless and make law seem like a joke to law breakers.

Northern Congo is known to have a high density of western lowland gorillas, the most populous of the 4 gorilla subspecies. Populations have drastically declined though in recent decades, due largely to Ebola outbreaks and poaching. Not far away, in March 2011, near where the equator crosses the Republic of Congo, several individuals (presumably of the same gorilla family) were all found dead together alongside a road. An orphaned baby was found sitting amongst the bodies. The poachers responsible were never found. This is clearly an example of commercial bushmeat hunting, as the quantity of meat several gorillas would yield would far exceed the needs of a subsistence hunter trying to feed his family. This is organized and deadly.

A similar case was recorded in late 2010, just before PALF began working in northern Congo. A man wielding an AK-47, obtained illegally from a police officer, went into the forest and killed 3 gorillas (see photo). Even though he was arrested by park rangers, he was soon free, having never been tried in court; and the head prosecutor of the region was not even made aware of the case. This highlights the need for legal follow up in conservation projects in Central Africa as the number of moments when bribes or influence can illegitimately free a criminal is high.



Hands of gorillas killed by a poacher in northern Congo

Photo: PROGEPP – Projet Gestion des Ecosystèmes Périphériques au Parc National Nouabalé-Ndoki

The two gorilla hunters mentioned above were tried and convicted in a special trial, held uniquely for wildlife criminals, organized by the Ouésso court, with the support of PALF. They were both convicted of killing a gorilla and possession of an illegal firearm. One was convicted for previously having killed an elephant as well. A third participant is thought to have escaped but will have an arrest warrant put out in his name. As for the two already sentenced, PALF will continue to closely follow the case to make sure the sentence is duly carried out. If deterring punishments can instigate change, then let us hope than the one year in prison they have been sentenced to (not to mention heavy fines to pay) will teach them and other potential poachers and traffickers who hear the news to think twice before killing gorillas in the future.

Naftali Honig

Wildlife Trafficking and the Traffic of Influence

The critical situation of the elephants and the great apes, and their role in the regeneration of the tropical forest, are well documented and broadcast by the media. This awareness has resulted in

several donor and partner initiatives to protect the African tropical forests and their biodiversity, both government and non-government, such as the *Great Apes Survival Partnership* (GRASP), IUCN, CARPE (*Central African Regional Program in the Environment*), the *Conference of Ministers in Charge of Forests in Central Africa* (COMIFAC), and CITES. Regardless, the number of species becoming threatened increases all the time and numerous populations are facing extinction.

Illegal hunting is the most immediate threat for several populations of great apes and elephants in Central Africa. The poverty of the local populations and the low level of funding available to administrations and conservation projects are frequently named as the causes of unsatisfactory results and solutions. The problem, however, is more complex than that. The weak application of national laws and international conventions is as much a result of ingrained corruption as a consequence of a lack of solutions proposed by the different stakeholders (Lagrot 2007; PALF 2009; LAGA 2009; Mathot 2010).

Various pseudo-repressive conservation actions have been applied, frequently by partnerships between government organisations and NGOs, but they seem mostly to target the occasional users of old and usually handmade guns. *Dura lex sed lex*: but justice is supposed to be the same for everybody. However, the “big fish” often manage to slip through the net, which seems to stretch and contract at their whim. This ostensibly neutral net seems somehow at risk of breaking under the weight of the impunity secured by the famous “traffic of influence” and other forms of corruption.

As a result, commercial and intensive hunting of protected species goes on in many regions almost without restriction, whether it is hunting for meat, trophies, ivory, skins, or live baby apes.



GORILLAS

Due to the repeated failure of conservation strategies developed in Central Africa and other regions of the world, complementary and innovative actions need to be conceived and conducted. While long-term measures for the sensitisation of the population or for the development of alternative income and protein sources are advocated, the risk is great that the species currently under threat will already have disappeared by the time the solutions are implemented.

Effective law enforcement is an indispensable and direct pre-requisite if the immediate threat is to be reduced and the long-term survival of these species made possible. Some NGOs and projects have already established a methodology to allow for effective law enforcement and for the fight against hunting and illegal trade at a national level, implementing programmes incorporating investigation, arrests, legal follow-up and media coverage.

Launch of the AALF Project in Gabon

The NGO *Conservation Justice* (www.conservation-justice.org) follows a model developed in 2003 by the NGO LAGA (www.LAGA-enforcement.org) in Cameroon, where it has proven itself in the battle against the trafficking of species and wildlife products protected in Central Africa. Because of the success of the model, PALF (*Projet d'Appui à l'Application de la Loi sur la Faune*, Wildlife Law Enforcement Support Project) and RALF (*Renforcement d'Application de la Loi sur la Faune*, Wildlife Law Reinforcement Support Project) were established in the Republic of Congo in 2008 by *The Aspinall Foundation* (TAF), and in the Central African Republic in 2009 by WWF, respectively. The aim of *Conservation Justice* is to facilitate the replication of this model in Gabon through AALF (*Appui à l'Application de la Loi sur la Faune*, Wildlife Law

Enforcement Support). It was initiated in October 2010 in cooperation with the Ministry of Water and Forests and the Gabonese NGO *Brainforest* (www.brain-forest.org).

All these projects follow the same approach in order to

1. identify notorious traffickers
2. facilitate their arrest and imprisonment
3. assist in their conviction
4. use media to disseminate the results obtained as a way of keeping the general public informed.

To achieve these objectives, the projects are supported by various organisations such as the *US Fish and Wildlife Service*, the COMIFAC, the UN, the Accord de Lusaka, the Embassies of the US, France, Great Britain, the Netherlands, EU delegations, several foundations, NGO partners such as WCS, WWF, TAF, *Brainforest*, and of course by the respective governments, particularly the ministries in charge of wildlife.

First results

Since its initiation 6 months ago, AALF has already obtained positive results – in spite of the inevitable difficulties.

Investigations. Three Gabonese and one expatriate investigator have

conducted investigations into ivory trafficking in Libreville and the interior of Gabon. The illegal trade and trafficking of ivory are apparent and could be documented both in Libreville and in the interior. The illegal trade in ivory carvings is declining, but trafficking of raw ivory is well developed and carried out by well-organised criminal networks. Several old ivory carvers have in fact confirmed this trend and the redeployment of their colleagues from carving to selling raw ivory on a much larger scale.

The great majority of the criminal networks organising the trafficking are directed by foreigners, but often supported or facilitated by nationals. While more difficult to apprehend, Asians remain the principal organizers and receivers of the trafficked ivory (O'Connell-Rodwell & Parry-Jones 2002; TRAFFIC 2010; Lagrot 2007).

Several trafficking circuits have been documented in Gabon. Trafficking is obviously ruled by demand and prices in the different stages of the marketing chain. The going prices (in CFA francs per kg) are approximately

- 15,000–20,000 “in the village”
- 35,000–45,000 in the urban centres of the interior
- 50,000–60,000 in Libreville
- at least 100,000 in Nigeria
- 350,000 in China.



Material confiscated during the operation in January 2011

Luc Mathot



GORILLAS

The hunting of great apes remains equally problematic. Investigations carried out in Libreville have shown that their consumption continues and that they are frequently used for medical/magical purposes.

Finally, leopard skins are traded in Libreville for decorative and traditional purposes. Networks for the trade in these skins exist in the interior, but they are also oriented towards international markets.

Arrests. Based on information obtained by AALF, the Ministry of Water and Forests, in cooperation with counter-intelligence officers, have carried out 3 series of arrests. With logistic and technical support, AALF has directly contributed to this success.

The first operation was conducted on 26th November 2010. On this occasion, 12 ivory sellers and one carver, whose workshop had been searched, were arrested. They were all foreigners (10 Senegalese and 3 Cameroonians). A total of 105 kg of carved ivory was confiscated.

A second operation took place on 13th January 2011. Five offenders were arrested by counter-intelligence officers and officers of the Ministry of Water and Forests. They were caught red-handed keeping and trading 12 leopard skins and one lion skin, 32 hands and 13 heads of gorillas and chimpanzees, 5 elephant tusks and many skins of other species. Unfortunately, two identified traffickers managed to escape during the operation. One of them was finally arrested on 11th February 2011. Five of the 6 arrested traffickers were Nigerian, the sixth came from Benin. This was the most important confiscation ever of great apes trophies in Africa! Confiscation of so many leopard skins is also a very rare occasion in central Africa.

Finally, another operation was carried out on 27th January 2011 against a Gabonese citizen who was intending to sell a chimpanzee orphan whose mother he had killed.

Legal follow-up. 17 wildlife law offenders were brought to court. In spite

of the direct involvement of the office of the public prosecutor and the public prosecutor himself, the initial decisions on the case of the great apes were disappointing. In fact, the accused were discharged – but an appeal was launched such that the legal procedure is still underway. In contrast, the carved ivory sellers are still behind bars, four and a half months after their arrest.

Another result of the involvement of the Law Department is the production of a guide containing the legislation relevant to wildlife. 3,000 copies will be printed for distribution among the police, members of the legal professions (prosecutors, judges, lawyers, etc.) and among the staff of the Ministry of Water and Forests and of nature conservation NGOs.

Media. Between December 2010 and March 2011, 89 articles have been published by various representatives of the national and international press. Many news articles also appear on the Internet.

In addition to the main Gabonese media (*Union, Gabon Matin, RTG1*), important international media have also disseminated the information. Among them are the *New York Times*, the *London Times*, the *Daily Mail*, the *Guardian*, *BBC Wildlife Magazine*, *BBC Radio* and *CNN*.

Training. Informing and training the relevant authorities in wildlife law enforcement is such an indispensable pre-requisite that *Conservation Justice* has decided to devote itself equally to this aspect.

As a result, AALF, in collaboration with the Ministry for Water and Forests, has been able to organise training sessions at the Gabonese police school. In this way, over 100 officers and over 200 new recruits have been sensitized to wildlife legislation. Over the next months, more policemen will be trained. It should also be noted that training courses on the protection of wildlife will shortly be officially integrat-



Heads of apes that were confiscated during the operation in January 2011

Luc Mathot



GORILLAS

ed into the training curriculum for policemen, thanks to the initiative of Conservation Justice.

Similarly, 20 judges have been introduced to the new legislation on wildlife protection.

Lastly, Gabonese custom officials are also currently undergoing training.

Conclusions

The success of the first arrests, and the obvious willingness of the police force, the Ministry for Water and Forest and the office of the public prosecutor to condemn these offences, allow us to

expect very promising results in Gabon, although the decisions made by the legal system have so far been discouraging and AALF is working closely with the various administrations and partners in order to improve this sad state of affairs. We hope that the collaboration and the support from the authorities, the embassies and the national and international conservation NGOs will continue and be strengthened in order to fight together against the trafficking of wildlife and wildlife products.

Beyond the number of operations and their effectiveness, the impact of

the AALF project activities on the decrease of the illegal trade in wildlife products is obvious. In fact, thanks to an intensive use of the media to publicize the obtained results, the population of Libreville and of Gabon in general is already better informed about the legislation and the inherent risks of offending.

The reinforcement of wildlife legislation remains a priority in view of the problems which effective application still faces, and of the growing threats to flagship species subjected to excessive international trade. We hope that the various donors, NGOs and state organisations are aware of this and that they will become more involved in similar projects and contribute to the experience already gained in Cameroon, Congo, Gabon, Central Africa and other parts of the world.

Luc Mathot

Africa's Green Heart

Tropical rainforests are home to more than half the world's species and play a crucial role in maintaining the health of our planet. *Earth's Green Heart* is a trilogy of films on tropical forests and deforestation by Bristol film-maker Steve Taylor, who has travelled across Africa, Amazonia and Borneo to explore first-hand the complex issues of deforestation. Gorillas in Africa, river dolphins in Peru, orangutans in Borneo all feature, along with forest-dwelling people – traditional custodians of the forest. The films were made with support from the *Ape Alliance*. An outline of each film is given, along with a short trailer, at www.greenheartfilm.com

Africa's Green Heart describes a journey from the slums and diamond pits of Sierra Leone to Gabon and across the Congo Basin. Dramatic film of bushmeat hunters and life on Congo riverboats contrast with gorilla behaviour and moving interviews with forest communities, loggers and conservationists.

You can order the Green Heart DVDs with an order form that is available on www.greenheartfilm.com and from www.4apes.com/shop

NGOs may also organise public screenings as fund-raising and awareness raising events. A license to screen one film is £ 50, two is £ 80 and all three is £ 100, plus 25% of the ticket sales. It is suggested to have someone to present the film and/or answer questions or chair a discussion afterwards. If you are interested, please use the contact at www.greenheartfilm.com



References

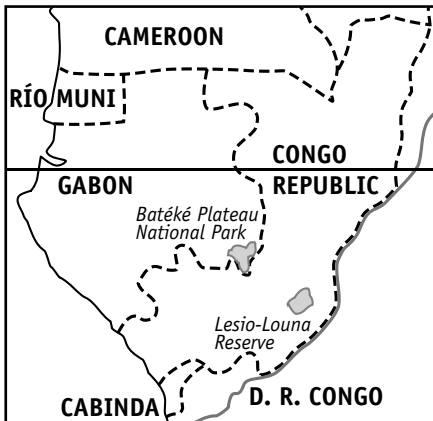
- LAGA (2011): Annual report (2010) Last Great Ape Organisation (www.laga-enforcement.org)
- O'Connell-Rodwell, C. & Parry-Jones, R. (2002): An Assessment of China's Management of Trade in Elephants and Elephant Products. TRAFFIC International
- Lagrot, J.-F. (2007): Ivoire : au Cœur du trafic. Sciences et avenir, <http://www.sciencesetavenir.fr/magazine/evenement/093669/ivoire-au-coeur-du-traffic.html>
- Mathot, L. (2010): Quand trafic de faune rime avec trafic d'influence. Le cas du Projet PALF en République du Congo. *Parcs et Réserves* 65/3, 4–8
- PALF (2009): Rapport d'activité annuel du PALF, septembre 2008–août 2009. The Aspinall Foundation
- TRAFFIC (2010): Seizures and prosecutions. March 1997–March 2010, *TRAFFIC Bulletin* 16, 3

2011 Update of The Aspinall Foundation's Gorilla Project in Gabon

Over the last 12 years, UK-charity *The Aspinall Foundation* has been running a unique western lowland gorilla rehabilitation and reintroduction project in



GORILLAS



The two reserves for gorilla reintroduction by PPG

Map: Angela Meder, produced with information by PPG Gabon

the forests of South-east Gabon. PPG-Gabon (*Projet Protection des Gorilles*) has been directly involved with habitat conservation initiatives in and around the Bateke Plateau National Park (PNPB) as well as providing sanctuary, rehabilitation and a protected wild space for reintroducing rehabilitated orphaned gorillas that have been rescued from Central Africa's wildlife trafficking and bushmeat trade. In addition, the project also includes a total of 7 hand-reared gorillas from *The Aspinall Foundation's* Howletts Wild Animal Park in Kent, UK. These young gorillas had been rejected by their mothers and so were considered ideal candidates to join the project, in keeping with *The Aspinall Foundation's* philosophy of returning animals to wild protected areas where possible.

Today, there are two groups living completely independently within the PNPB, and they are regularly monitored by PPG staff (currently numbering 24 people). The silverback male of the first group of 20 individuals is 14-year-old Tonga, while the second group of 3 is led by 13-year-old Djalta – one of the select number of gorillas to have come from Howletts Wild Animal Park.

Souba, a 10-year-old female from Djalta's group, joined Tonga's group at the end of April 2011.

Tonga is an orphan gorilla who, like most orphans who end up at the PPG site, has had a traumatic start in life. Rescued from hunters, and thus from a certain death, at Port-Gentil, Tonga came to PPG in 1999 when he was 2.5 years old. He gradually overcame his trauma and injuries and went on to rebuild a new life in the forests of the PNPB, under the daily supervision of PPG staff.

Amongst his group of 20, there are 15 adults (10 females and 5 males, aged between 11 and 14 years) and 5 infants who were wild-born in the PNPB. Lékédi (14 years old) gave birth to the male Okeli in 2007, Moanda (13 years old) gave birth to female Ntsege in 2008, Sophie (14 years old) gave birth to Antsia in 2009, Zora (11 years old) to Antseleme in 2010 and finally Otala (12 years old) gave birth to Mbié in early 2011. All of the group's offspring are healthy and thriving well under Tonga's care as well as all of the other males who often band together to protect Otala from any staff member who approaches her to take pictures!

Breeding has been observed frequently between Tonga and the adult females, but several other males within this group have now reached repro-



Sophie with Antsia, Mbundu and Tonga

Photo: PPG Gabon



Congolese poachers arrested by PPG and ANPN ecoguards (December 2010)

Photo: PPG Gabon

ductive maturity, including 13-year-old Kongo, and 12-year-olds Ngoma, Ivin-do and Boumango. Therefore, due to this element of doubt as to who is the actual sire of each infant, we are planning to run genetic testing on each infant to positively identify their lineage.

Both groups are doing well and spend long periods feeding in swamp regions. Their home ranges have considerably expanded to the North and South, which exposes them to an increased risk of poaching. While poaching has been very intense in the PNPB, it has now started to decline again. PPG guards recently stepped up their efforts and have captured around 15 poachers in the last 6 months. The poachers were handed over to the Conservator of the PNPB (from the National Parks Agency – ANPN) and the Gendarmerie Nationale, and were served a sentence of 6 months in prison. PPG has also recently signed an agreement to improve *Aspinall Foundation* support to the ANPN. This additional support, not only financial but also focusing on logistics and human resources, will provide the means to put a dozen additional ANPN guards in the field, who will work to increase the breadth and scope of wildlife protection in the forests and savannas of the PNPB.



GORILLAS

Finally, PPG is working on the rehabilitation of a small group of 4 orphans (3 females and 1 male, aged 3 to 5 years) at the project's nursery in the forests of western PNPB. This small group is still very dependent on humans for emotional support and protection but they are gradually learning to become more confident and independent. PPG is currently in discussions with the *Aspinall Foundation* and the ANPN about the possibility of carrying out additional confiscations in the near future. These confiscations would, as per standard procedure, be a joint effort between the PPG and the Ministry of Water and Forests, whose agents carry out the official confiscations.

PPG's presence in the region is a vital step in facilitating wildlife law enforcement activities, as the relevant

authorities have often been hindered in their actions by the absence of a solution about where to place confiscated orphans. PPG aims to strengthen its support to the Gabonese authorities responsible for combating this difficult problem, and provide a second chance for these orphans to live in the wild again. PPG's ultimate aim is to reconstruct a viable population of western lowland gorillas in the PNPB over the long term, following their extirpation from the region several decades ago.

The births we have celebrated to date, as well as these future orphans, are symbols of hope that we will one day see the forests and savannas of the Batéké Plateau repopulated by wildlife.

Nicolas Bout and Amos Courage



Bumbie

Photo: PPG Gabon



Sophie with Antsia

Photo: PPG Gabon

Illegal Logging in Maiombe

In January 2011, the governor of Cabinda province, João Baptista Mawete, expressed concern, over illegal exploration of timber by citizens from the Republic of Congo.

Speaking to the press at the end of a field visit, he said he is aware of violations of the national border by Congolese who have been illegally exploiting timber into the Angolan side of the Maiombe Forest. He urged the defence and security forces for heightened vigilance in the protection of national borders and natural resources.

*Angolan Press Agency,
31 January 2011*



READING

Martha M. Robbins and Christophe Boesch (eds.)

Among African Apes. Stories and Photos from the Field. Berkeley (University of California Press) 2011. 183 pages, 32 colour photos. Hardcover, US\$ 29.95, £ 20.95. ISBN 978-0-520-26710-7

Would you like to know how gorilla researchers work in the field? What problems they face and how they feel when they at last begin to see the first signs of success after years of hardship? Then you should read this book. It is not a scientific publication, but it is meant for all people who are fascinated by apes. The 11 chapters were written by various ape experts who have worked with African apes (all species) in many different field sites. Their reports describe the experiences of the observers, and stories of individual apes in their study populations as examples of particular aspects of ape behaviour. The stories are interesting in two ways: they describe how ape researchers work in the field today, and they illustrate the distinct personalities of great apes.

For anybody who is not familiar with field methods and ape behaviour, there are text boxes giving information about particular subjects like diseases, line transects, habituation, infanticide, tool use – concise explanations which are very helpful for understanding the reports of the researchers. Friends of African apes can learn all kinds of interesting things about today's fieldwork, including the fact that it is still an adventure, and always provides surprises.

Angela Meder

Jörg Hess

Mountain Gorillas – An Homage. Basel (Echtzeit Verlag) 2011. Photos and citations, German – English – French. 256 pages. Hardcover, CHF 56,00, Euro 42,00. ISBN 978-3-905800-33-3

This superior quality book consists of fascinating colour photos of Group 5 in Rwanda and the mountain gorilla habitat. The texts (in 3 languages) are citations by gorilla researchers from the 19th century until today.

Tamar Ron and Tamar Golan

Angolan Rendezvous. Man and Nature in the Shadow of War. Johannesburg (30° South Publishers) 2010. 272 pages, 40 colour, b/w photos, maps, sketches. Paperback, R 250.00. ISBN 978-1920143-42-8

Tamar Ron, the biologist who has been working on the conservation of the Maiombe Forest, and Tamar Golan, the first Israeli ambassador in Angola, wrote a book on their experiences in this difficult and exciting country. The fascinating stories of each author are printed in a certain type, and the different themes they cover complement each other very nicely. Tamar Golan mainly deals with political and diplomatic aspects, and Tamar Ron reports from the rain forests, the savannas and the rivers and her encounters with all kinds of wild animals and with Angolan people. Apart from the authors' personal narration, the book also contains general information about the history and the nature of Angola.

William Olupot and Andrew J. Plumptre

Conservation Research in Uganda's Forests: A Review of Site History, Research, and Use of Research in Uganda's Forest Parks and Budongo Forest Reserve. Hauppauge, New York (Nova Science Publishers) 2010. XIV, 169 pages. Hardcover, US\$ 69. ISBN 978-1-60876-577-5

John Prendergast and Don Cheadle

The Enough Moment: Fighting to end Africa's worst human rights crimes. New York (Three Rivers Press) 2010. 304 pages. Paperback, US\$ 14.99, £ 11.99. ISBN 978-0-30746482-8

Michael Nest

Coltan (PRS–Polity Resources series). Polity 2011. 200 pages. Hardcover, US\$ 49.95. ISBN 978-0-74564931-3

FAO

State of the World's Forests 2011. Rome (FAO) 2011. 179 pages. ISBN 978-92-5-106750-5

James L. Gibling and Jamie Monson (eds.)

Maji Maji: Lifting the fog of war. Leiden (Brill) 2010. XII, 325 pages. Paperback, US\$ 107, £ 70. ISBN 978-9004183421

New on the Internet

Greenpeace

Bad Influence – how McKinsey-inspired plans lead to rainforest destruction. April 2011, 40 pages. <http://www.greenpeace.org/international/en/publications/reports/Bad-Influence> (4.6 MB)

Jeroen Cuvelier (ed.)

The complexity of resource governance in a context of state fragility: the case of eastern DRC. International Alert, November 2010, 80 pages. <http://www.ipisresearch.be/download.php?id=333> (1.2 MB)

Didier Verbruggen, Evie Francq and Jeroen Cuvelier

Guide to Current Mining Reform Initiatives in Eastern DRC. IPIS, April 2011, 31 pages. <http://www.ipisresearch.be/download.php?id=334> (405 kB)

Sasha Lezhnev and David Sullivan

Certification: The Path to Conflict-Free Minerals from Congo. Enough Project, May 2011. 24 pages. http://enoughproject.org/files/certification_paper_0.pdf



BERGGORILLA & REGENWALD DIREKTHILFE

Global Witness

Congo's minerals trade in the balance: opportunities and obstacles to demilitarisation. London (Global Witness) 2011. 28 pages. ISBN 978-0-9566418-6-1.

http://www.globalwitness.org/sites/default/files/library/Congo's%20minerals%20trade%20in%20the%20balance%20low%20res_0.pdf

Finances

Income in 2010

Subscriptions	17,234.90 Euro
Donations	30,530.46 Euro
Currency differences	1,340.36 Euro
Sales	1,368.21 Euro
Total	50,473.93 Euro

Expenses in 2010

Administration	1,019.36 Euro
Members' meeting	877.78 Euro
<i>Gorilla Journal</i>	2,325.32 Euro
Items for sale	1,931.28 Euro
Postage	697.80 Euro
Fees	242.51 Euro
Pay/top-ups	5,200.00 Euro
Maïko	
Park security	7,563.72 Euro
Sarambwe	
Office supply VONA	625.01 Euro
Workshop	7,112.00 Euro
Mt. Tshiaberimu	
School tree nurseries	4,347.12 Euro
Kahuzi-Biega	
Employee health	8,614.00 Euro
Bwindi	
ITFC employee health	4,000.00 Euro
ITFC employees	8,000.00 Euro
Ebo Forest	
Posters, flyers	1,120.00 Euro
Cross River area, Cameroon	
Carbon credit study	6,500.00 Euro
Gorilla guardian netw.	8,965.00 Euro
Conservation educ.	10,000.00 Euro
Cross River area, Nigeria	
Renovation Afi camp	3,776.00 Euro
Snail breeding	3,776.00 Euro
Total	86,692.90 Euro

Our Donors

From November 2010 to April 2011 we received major donations by Bettina von Arnim-Reuter, Frederik Bakels, Elisabeth Engel, Marianne Famula, Jürgen and Irmgard Friedrich, Petra Fritsche, Matthias and Dina Gelb, Peter Günther, Cathrin Hoffmann, Gabriele Holzinger, Marianne Holtkötter, Hundeleben, Helga Innerhofer, Götz Kauschka, Thomas Kimmel (Diamir Erlebnisreisen), Hartmann Knorr, Frank Lehwalder, Hannelore Merker, Manfred Paul, Wilhelm or Gise Plogmann, Birgit Reime, Erwin Rosenkranz, Alfred Roszyk, Nina Sandermann, Heinz Stelter, Juliana Ströbele-Gregor, Jill and Steve Tyler, Elisabeth Zaruba, Manfred Zimmer and Krefeld Zoo.

The Stuttgart Zoo Wilhelma donated 4,584.28 Euro from the recycling of mobile phones they had collected. After a presentation about his gorilla tours at the Wilhelma, Wolfram Riettschel collected donations for us – with impressive success (see photo below). Ravid Aloni's colleagues from the company AIXTRON AG collected 165 Euro for us; Margarete Kramp started a collection instead of gifts for her 80th birthday. Andreas Schroeter promised to support us with his company Kong Island Productions; he already transferred the first donation.

Many thanks to all of them, and to the other donors as well! We are grateful for your support, and we hope that you will continue to support us.



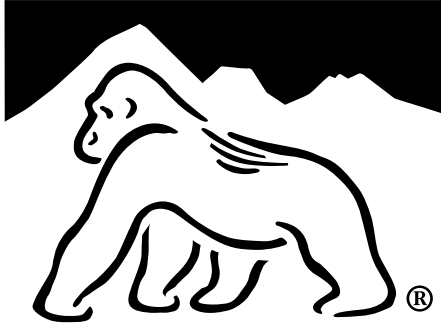
Impressions from our Members' Meeting in Leipzig



Cyril Grüter and Johannes Grossmann, MPI for Evolutionary Anthropology, talked about their research; zoo keeper Reinald Herrmann explained the great ape enclosure.



VOLCANOES



S A F A R I S

The No. 1 gorilla safari company

Leading Lodges of Uganda & Rwanda

Virunga · Bwindi · Kyambura Gorge · Mount Gahinga

For a quote email salesug@volcanoessafaris.com

Subscription to the *Gorilla Journal*

If you become a member, you will receive the journal regularly. If you want to receive the printed journal without becoming a member, we would be grateful if you could make a donation to cover our costs. The costs to send the journal overseas are about US\$ 20 per year.

If you do not need the printed version, we can include your email address in our mailing list and you will be informed as soon as the PDF files are available (contact: meder@berggorilla.org).

You can download this issue at:

www.berggorilla.de/fileadmin/gorilla-journal/gorilla-journal-42-english.pdf

as well as the German issue:

www.berggorilla.de/fileadmin/gorilla-journal/gorilla-journal-42-deutsch.pdf

and the French issue:

www.berggorilla.de/fileadmin/gorilla-journal/gorilla-journal-42-francais.pdf

Declaration of Membership

Starting with the following date ____ I declare my membership in *Berggorilla & Regenwald Direkthilfe*

Name _____ Affiliation _____

Address _____

Birth date _____ male female

I want to receive a printed copy of the *Gorilla Journal*

I want to be informed if the new issue can be downloaded from the internet. My e-mail: _____

Yearly subscription (please mark)

Date and signature _____

	Europe	Overseas
Student	<input type="checkbox"/> Euro 15	<input type="checkbox"/> US\$ 25
General member	<input type="checkbox"/> Euro 40	<input type="checkbox"/> US\$ 75
Family	<input type="checkbox"/> Euro 65	<input type="checkbox"/> US\$ 120
Donor	<input type="checkbox"/> Euro 100	<input type="checkbox"/> US\$ 180

Bank account:

Berggorilla & Regenwald Direkthilfe

Account number 353 344 315

Stadtsparkasse Muelheim, Germany

Bank code number 362 500 00

IBAN DE06 3625 0000 0353 3443 15

SWIFT-BIC SPMHDE3E

Please send to:

Rolf Brunner

Berggorilla & Regenwald Direkthilfe

Jerchenstr. 5

45473 Muelheim, Germany

Fax +49-711-6159919

Bank account in Switzerland:

Postscheckkonto Postfinance

Account number 40-461685-7