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Wildlife Conservation Society. New York.

Plumptre, A.J., S. Mugume, D. Cox & C. Montgomery. 2001. Chimpanzee and large mammal survey of Budongo Forest Reserve and the Kibale National Park. Unpublished Report to Wildlife Conservation Society. New York.

References

- Butynski, T.M. 2001. Africa's great apes. In: *Great Apes and Humans: The Ethics of Coexistence*. B. Beck, T.S. Stoinski, M. Hutchins, T.L. Maple, B. Norton, A. Rowan, E.F. Stevens & A. Arluke, eds. Smithsonian Institution Press, Washington D.C. Pp 3-56.
- Byaruhanga, A., P. Kasoma & D. Pomeroy. 2001. *Important Bird Areas in Uganda*. East Africa Natural History Society, Kampala.
- Davenport, T.R.B. 1995. Chimpanzees in Otzi Forest Reserve. Unpublished report to the Forest Department, Kampala.
- Davenport, T.R.B. & P.C. Howard. 1996. Otzi and Era Forest Reserves. A Biodiversity Report. Volume 17. The Forest Department, Kampala, Uganda.
- Howard, P.C., T.R.B. Davenport & F.W. Kigenyi. 1997. Planning conservation areas in Uganda's natural forests. *Oryx* 31: 253-264.
- Howard, P.C., P. Viskanic, T.R.B. Davenport, F.W. Kigenyi, M. Baltzer, C.J. Dickinson, J.S. Lwanga, R.A. Matthews & A. Balmford. 1998. Complementarity and the use of indicator groups for reserve selection in Uganda. *Nature* 394: 472-475.
- Howard, P.C., T.R.B. Davenport, F.W. Kigenyi, P. Viskanic, M.C. Baltzer, C.J. Dickinson, J.S. Lwanga, R.A. Matthews & E. Mupada. 2000. Protected area planning in the tropics: Uganda's national system of forest nature reserves. *Conservation Biology*. 14: 1-19.
- Kortlandt, A. 1983. Marginal habitats of chimpanzees. *Journal of Human Evolution* 12: 231-78.
- Langdale-Brown, I., H. A. Osmaston & J.G. Wilson. 1964. *The Vegetation of Uganda and its Bearing on Land-use*. Government Printer, Entebbe.
- Lee, P.C., J. Thornback & E.L. Bennett. 1988. *Threatened Primates of Africa. The IUCN Red Data Book*. Gland, Switzerland.
- National Biomass Study. 1996. The national biomass study—Uganda land cover stratification (vegetation). The Forest Department, Kampala, Uganda.
- Plumptre, A.J. & V. Reynolds. 1996. Censusing chimpanzees in the Budongo forest. *International Journal of Primatology* 17: 85-99
- Plumptre, A. J., S. Mugume, D. Cox, R. Bergl & L. Rothen. 2000. Chimpanzee and large mammal survey of Bugoma Forest Reserve and the Kagombe-Matiri Forest Reserve Complex. Unpublished Report to

COMPOSITION OF GORILLA *GORILLA BERINGEI* GROUPS MONITORED BY KARISOKE RESEARCH CENTRE, 2001

Introduction

As information about the group composition and social behaviour of western lowland gorillas *Gorilla gorilla* has emerged (e.g., Parnell, 2002), researchers have had to rely on incomplete published information about mountain gorilla group compositions when comparing the different species. The purpose of this paper is to provide an update on the demographic composition of the research population in Rwanda. We hope to make this an annual programme so that researchers and local park authorities have ready access to this information. All data come from the Karisoke long-term records.

Groups were monitored on a daily basis in 2001, with the exception of some days between June and August when visits to the gorillas were suspended because of insecurity. As a result, the data presented here represent a complete listing of demographic changes to the three research groups in 2001.

Table 1 lists the individual composition of three mountain gorilla groups currently monitored by staff of the Dian Fossey Gorilla Fund International at Karisoke Research Centre in Rwanda. These individuals or their ascendants formed most of the population studied by Dian Fossey beginning in 1967. The columns in the table show the name given to each individual, a 3-letter identity code, a 3-letter identity code for the mother's name, and a 3-letter identity code for the family name (based on matriline), plus the sex, date of birth, and age of each individual as of 31 December 2001. In some cases, an individual's age is approximate because the birth date was estimated when the individual was first seen. In order to note birth date accuracy, an index that describes the error around a birth date is listed in the column 'Birth Error'. We include one solitary silverback, as he is easily identifiable, interacts with two of the research groups, and left Pablo's Group only 3 years ago.

Between January 1, 2001 and December 31, 2001 the number of individuals in the Karisoke Research

Centre-monitored research population increased by five among three groups. Details of demographic changes in each group follow.

Beetsme's Group

Beetsme's Group increased from 24 to 27 animals, with two births, two immigrations and one death. The immigrant females, Ukuri and Mahirwe, were both under 8 years old at the time of transfer, and both came from Pablo's Group. There were three silverbacks in this group until Beetsme died on June 15th, at the estimated age of 35 (birth error = 5). There are two other silverbacks in this group, Kuryama and Joli Ami.

Pablo's Group

Pablo's Group saw two births, and two subadult females transferred to Beetsme's Group, so there was no overall change in the size of the group. This group, however, remains the largest ever recorded, at 47 individuals and had reached 48 before Mahirwe emigrated in December.

Shinda's Group

Shinda's Group increased from 22 to 24 with the event of two births. This group is remarkable in having six

silverback males. All are in their natal group, as they were born in Group 5, which split in 1993 to become Pablo's and Shinda's groups (e.g., Robbins, 2001).

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References

- Parnell, R.J. 2002 Group size and structure in western lowland gorillas (*Gorilla gorilla gorilla*) at Mbeli Bai, Republic of Congo. *American Journal of Primatology* 56: 193-206.
- Robbins, M.M. 2001. Variation in the social system of mountain gorillas: The male perspective. In: *Mountain Gorillas: Three Decades Of Research At Karisoke*. M.M. Robbins, P. Sicotte & K.J. Stewart (ed.). Cambridge University Press, New York. Pp. 29-58.

Table 1: Research gorilla group composition in Virunga Volcanos, Rwanda, 31 December 2001.

NAME	ID	Mother	Matriline	Sex	Birth date	Birth Error [†]	Current Age (years)
Beetsme's Group (27 members)							
3 SBs, 7 AFs, 5 BBs, 1 SAM, 3 SAFs, 1 JUV, 7 INFs*							
Titus	TIT	FLO	FLO	m	24-Aug-74	0	27.4
Bwenge	BWE	GIN	PET	m	22-Mar-90	0	11.8
Inziza	IZZ	GIN	PET	f	07-Jul-94	2	7.5
Papoose	PAP	unk	PAP	f	01-Jan-64	4	38.0
Shangaza	SHA	PAP	PAP	f	15-May-80	2	21.6
Pato	PTO	PAP	PAP	m	18-Jan-00	0	2.0
Kuryama	KUY	PAP	PAP	m	16-Aug-86	0	15.4
Bukima	BKA	PAP	PAP	f	03-Jul-94	2	7.5
Gufasha	GUF	PAP	PAP	f	13-Sep-98	2	3.3
Ikazi	IKZ	PAP	PAP	f	18-Dec-01	0	0.0
Fuddle	FUD	unk	FUD	f	01-Jan-68	5	34.0
Mawingu	MAW	FUD	FUD	f	06-Mar-82	0	19.9
Kirahure	KIR	MAW	FUD	m	30-Aug-91	0	10.3
Isaro	ISR	MAW	FUD	f	17-May-99	1	2.6
Joli Ami	JOA	FUD	FUD	m	23-Feb-88	0	13.9
Umushikirano	RAN	FUD	FUD	m	10-Aug-92	0	9.4
Taraje	TAR	FUD	FUD	f	01-Jun-99	1	2.6
Tuck	TUC	EFF	EFF	f	15-May-72	1	29.6
Vuba	VUB	TUC	EFF	m	28-Aug-93	0	8.3
Dushirehamwe	DSR	TUC	EFF	m	25-Jul-97	1	4.4
Urwibutso	URS	TUC	EFF	m	05-Apr-01	0	0.7
Ukuri	UKU	MAH	EFF	f	01-Oct-93	0	8.2

NAME	ID	Mother	Matriline	Sex	Birth date	Birth Error	CurrentAge (years)
Jenny	JEN	SIM	MSX	f	18-Aug-81	0	20.4
Ubwigenge	UBI	JEN	MSX	m	01-Jul-90	0	11.5
Tuyizere	TZE	JEN	MSX	m	28-Aug-94	2	7.3
Turakora	TRK	JEN	MSX	m	08-Oct-98	1	3.2
Mahirwe	MHW	BSH	AMR	f	15-Jul-94	2	7.5
Pablo's Group (47 members)							
3 SBs, 17 AFs, 3 BBs, 4 SAMs, 6 JUVs, 14 INFs							
Pablo	PAB	LIZ	LIZ	m	31-Aug-74	0	27.3
Umurava	UMR	PTY	MAR	m	04-Jan-86	0	16.0
Turatsinze	TUR	PTY	MAR	m	18-Mar-91	0	10.8
Gicurasi	GIC	PTY	MAR	m	11-May-95	2	6.6
Puck	PUC	EFF	EFF	f	15-Dec-68	1	33.0
Cantsbee	CAN	PUC	EFF	m	14-Nov-78	0	23.1
Intwali2	INT	PUC	EFF	f	12-Feb-86	0	15.9
Kureba	KRB	INT	EFF	m	03-Oct-98	0	3.2
Makuba	MAK	PUC	EFF	f	20-Aug-89	0	12.4
Isabukuru	ISA	PUC	EFF	m	12-Oct-92	0	9.2
Mafunzo	MAF	PUC	EFF	m	18-Jun-99	0	2.5
Maggie	MAG	EFF	EFF	f	15-Jun-80	1	21.5
Rukundo	RUK	MAG	EFF	m	07-Nov-94	2	7.1
Afrika	AFR	MAG	EFF	m	20-Apr-00	0	1.7
Mahane	MAH	EFF	EFF	f	20-Oct-84	0	17.2
Twihangane	TWH	MAH	EFF	m	21-Apr-97	0	4.7
Turakomege	KOM	MAH	EFF	m	09-Dec-00	0	1.1
Umuco	UMC	TUC	EFF	f	24-Aug-89	0	12.4
Iyambere	IYA	UMC	EFF	m	08-Dec-00	0	1.1
Umwana	UMW	FLO	FLO	f	01-Jun-83	0	18.6
Muzeneza	MNZ	UMW	FLO	m	15-Mar-93	1	8.8
Gushimira	GSH	UMW	FLO	f	04-Sep-96	0	5.3
Ruhuka	RUH	UMW	FLO	f	15-Oct-99	0	2.2
Gitebe	GIT	CLO	FLO	f	31-Mar-88	0	13.8
Ishavu	ISH	CLO	FLO	m	08-Jul-01	0	0.5
Bishushwe	BSH	AMR	AMR	f	18-Jun-85	0	16.5
Kubaha	KBH	BSH	AMR	m	11-Oct-98	0	3.2
Cyiza	CYI	unk	CYI	f	01-Jan-68	6	34.0
Mudakama	MUD	CYI	CYI	f	14-Nov-86	0	15.1
Bikereri	BKR	MUD	CYI	f	07-Jun-96	0	5.6
Giraneza	GIR	CYI	CYI	m	25-Oct-94	2	7.2
Faida	FAI	CYI	CYI	m	10-Oct-00	0	1.2
Umutsatsi	UMU	GUY	GUY	f	15-May-84	1	17.6
Mapendo	MAP	UMU	GUY	m	01-Sep-94	2	7.3
Musilikale	MSK	UMU	GUY	m	01-Apr-98	3	3.8
Gutangara	GUT	UMY	UMY	f	30-Dec-83	0	18.0
Tamu	TAM	GUT	UMY	f	25-May-96	0	5.6
Urugwiro	UGW	GUT	UMY	m	05-Jan-01	0	1.0
Nzeli	NZE	IGT	UMY	f	09-Sep-85	0	16.3
Umutekano	TEK	NZE	UMY	f	13-Nov-99	0	2.1
Mukecuru	MUK	MUK	unk	f	unk	5	unk
Mitimbili	MIT	MUK	unk	f	15-May-96	0	5.6
Umwe	UME	MUK	unk	f	13-Mar-00	0	1.8
Ginseng	GIN	AUG	PET	f	14-Aug-80	0	21.4
Irakoze	IRA	GIN	PET	m	04-May-00	0	1.7
Ntobo	NTO	KUG	KUG	f	26-Oct-91	0	10.2
Urugero	URG	NTO	KUG	m	26-Jun-00	0	1.5

Shinda's Group (24 members)

6 SBs, 7 AFs, 3 BBs, 1 SAM, 1 SAF, 2 JUVs, 4 INFs

Shinda	SHI	MAR	MAR	m	28-Feb-77	0	24.8
Gwiza	GWZ	LIZ	LIZ	m	20-Oct-87	0	14.2
Inshuti2	INS	SIM	MSX	m	04-Feb-88	0	13.9
Twizere	TWI	SIM	MSX	m	07-May-92	0	9.7

NAME	ID	Mother	Matriline	Sex	Birth date	Birth Error	CurrentAge (years)
Pandora	PAN	unk	PAN	f	01-Jan-60	6	42.0
Amahoro	AMH	PAN	PAN	m	03-May-86	0	15.7
Kubaka	KUB	PAN	PAN	f	06-Mar-90	0	11.8
Tegereza	TEG	KUB	PAN	m	25-Oct-99	0	2.2
Twibuke	TBK	PAN	PAN	m	01-Jun-98	3	3.6
Walanza	WAL	unk	WAL	f	01-Jan-69	6	33.0
Ugenda	UGE	WAL	WAL	m	20-Oct-87	0	14.2
Nahimana	NAH	WAL	WAL	f	07-Mar-92	0	9.8
Kurudi 2	KRD	WAL	WAL	f	23-Apr-96	0	5.7
Kwiruka	KWR	unk	KWR	f	01-Jan-77	5	25.0
Ntambara	NTA	KWR	KWR	m	21-Feb-87	0	14.9
Ugutsinda	UGU	KWR	KWR	m	15-Oct-90	1	11.2
Wageni	WAG	KWR	KWR	m	31-Jan-95		6.9
Imvune	IMN	KWR	KWR	m	15-Aug-99	3	2.4
Kubyina1	KBY	unk	KBY	f	01-Aug-81	4	20.4
Urugamba	URU	KBY	KBY	m	11-Jun-91	0	10.6
Kanama	KAN	KBY	KBY	f	19-Aug-95		6.4
Sagamba	SAG	KBY	KBY	m	07-Sep-01	0	0.3
Pasika	PAS	PAP	PAP	f	01-Apr-91	0	10.8
Umutuzo	UMZ	PAP	PAP	f	06-Sep-01	0	0.3
Solitary males							
Ineza	INZ	PIC	PIC	m	28-Jan-86	0	15.9
TOTALS: 13 SBs, 31 AFs, 11 BBs, 6 SAM, 4 SAF, 9 JUVs, 25 INFs							

*AGE/SEX CLASSES given are those used at Karisoke for long-term records:
INF infant female / INM infant male: 0-3.5 years
JUF juvenile female / JUM juvenile male 3.5-6 years
SAF subadult female / SAM subadult male 6 – 8 years
AF adult female > 8 years
BB blackback male > 8-12 years
SB silverback male > 12 years

†BIRTH ERRORS are given by a 0-6 index as follows:
0= known, exact date or within a week (±4 days)
1= know the month of birth (±15 days)
2= know the 3 month period in which the birth occurred (±1.5 months)
3= know the year in which the birth occurred (± 6 months)
4= individual first seen as a pre-reproductive immature (±1.5 years)
5= individual first seen at 8-12 years old (± 2 years)
6= individual first seen at 12-20 years old (± 4 years)

SPECIES AND SUBSPECIES OF PRIMATES DESCRIBED SINCE 1990

Thirty-eight primates (species and subspecies), have been described in the last 10 years: ten from Madagascar, eight from Africa, seven from South-east Asia, ten from the

Brazilian Amazon (seven of them marmosets), and three from the Brazilian Atlantic forest. Froehlich *et al.* (1998) record the existence of a new macaque species occurring in the Central Sulawesi peninsula, Indonesia, but its formal description has yet to be published (see also Supriatna & Hendras, 2000). Please note that this list is presented without any judgement as to the validity or otherwise of the various primates described.

Prosimians

1. *Pseudopotto martini* Schwartz, 1996

2. *Tarsius diana* Niemitz, Nietsch, Warter & Rumppler, 1991

3. *Galagoides rondoensis* Honess, 1996

4. *Galagoides udzungwensis* Honess, 1996

5. *Microcebus ravelobensis* Zimmerman, Cepok, Rakotoarison, Zietemann & Radespiel, 1998
- False potto

Dian’s tarsier

Rondo dwarf galago*

Matundu dwarf galago*

Lac Ravelobe or golden-brown mouse lemur