

INTRODUCTION

The Mahale Mountains National Park contains the majority of chimpanzees (*Pan troglodytes schweinfurthii*) in Tanzania¹. However, after initial research stages, studies have mainly focused on habituated chimpanzee groups (see 2 for details) that inhabit the northern part of the park. Consequently, recent information on unhabituated chimpanzee groups is mostly from adjacent groups of the main study group, M group (e.g. 3, 4, 5, and 6). Although there have been recent surveys further to the north⁷ and further to the east⁸, no systematic survey further south has been recently conducted.

The objective of this survey is to obtain general information of the southern part of the park: the occurrences of chimpanzees and other large mammals, the vegetation types, and the degree of human disturbance that can be useful for area conservation.

METHODS

We made our survey from September 6-11 2004 at the end of dry season. We first went to an estuary of the River Lubugwe by boat and then climbed a ridge to Mt. Kakunjila. After heading east for a while, we crossed the Katimba Valley and headed southeast for Kalya. From Katimba to Kalya, we tried to walk as straight as possible. The survey route was traced by a global positioning system.

We counted chimpanzee beds found from the survey route and estimated the distance from the route by eye. We roughly estimated the age of the beds and identified the species of their host trees. Chimpanzee vocalization, food remains, or feces were also recorded whenever encountered. We also recorded direct and indirect evidence of other large mammals and made rough sketches of vegetation types and human disturbance (e.g., remains of cultivation, fire, etc.).

RESULTS

Figure 1 shows the survey route. From the Katimba to the Msilambula Valleys, we walked almost straight southeast. However, because we could not find running water in Msilambula where we had planned to spend the night, we headed east for another 10 km or so to find water. Between River Lumbye and Kalya, a wide range of area was burned and the vegetation was damaged. We sometimes saw large fallen trees that were still burning.

The evidence for large mammals is summarized in Table 1. Direct observations of mammals were

<NOTE>

Survey of the Southern Part of the Mahale Mountains

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Table 1. Evidence of Large Mammals Found during the Survey

Animal Species		Evidence ^c
Common Names ^a	Scientific Names ^b	
Chimpanzee	<i>Pan troglodytes</i>	F, R, V, B, P
Red colobus monkey	<i>Procolobus badius</i>	D
Roan antelope	<i>Hippotragus equinus</i>	F
Bush duiker	<i>Sylvicapra grimmia</i>	D
Bush pig	<i>Potamochoerus porcus</i>	F, S
Warthog	<i>Phacochoerus aethiopicus</i>	F, D, S
African buffalo	<i>Syncerus caffer</i>	F, V, T, P
African elephant	<i>Loxodonta africana</i>	T
Crested porcupine	<i>Hystrix cristata</i>	F
Bushy-tailed mongoose?	<i>Bdeogale crassicauda</i>	D
Mongoose?	?	F
Leopard	<i>Panthera pardus</i>	F
Spotted hyena	<i>Crocuta crocuta</i>	F

^a There are other possibilities for species with "?".

^b Based on Ref. 9.

^c F=Feces, R=food Remains, V=Vocalizations, B=Beds, P=foot Prints, D=Direct observations, S=Skeletons, T=Trails

rare, perhaps because of the destroyed vegetation. Animals may have detected us before we noticed them. Although much of the chimpanzee evidence we found (plotted in Figure 1) was old beds, we heard calls twice and saw some fresh feces. Table 2 shows the species of the host trees of the chimpanzee beds.

DISCUSSION

Judging from the distribution of chimpanzee evidence, the ranging patterns of known groups, the vegetation, and the geographical characteristics, we estimated that our survey area covered the ranges of five unit groups, each mainly utilizing the riverine forests of Lubugwe, Msuma, Katimba, Lumbye, and Msilambula, respectively. We need additional surveys to confirm our assumptions.

To estimate the number of chimpanzees inhabiting this area, we need information of the speed of bed decay. Since most bed trees we found were *Brachystegia*, which are common in Miombo woodlands, bed decay data for these tree species have to be collected in dry Miombo woodlands.

We tried to walk straight to gather less biased data of chimpanzee beds. However, this was difficult due to two reasons. One is the landscape. Although we managed to cross the Katimba Valley without any special equipment, we had to cautiously select the safest route, and so we could not merely walk straight. Secondly, we quit walking straight because of a lack of water. Unlike a census in moist rain forests, it is hard to find water in a savanna woodland during the dry season. This is a serious obstacle when considering a wider census in Mahale.

Just as the eastern area of the Mahale National Park⁸, the area south of Lumbye was badly burned. Even here we found old chimpanzee beds (especially around Msilambula), but we did not find recent evidence in such dry and burned areas. This suggests that chimpanzees utilize this area only in rainy season and migrate to other areas (perhaps near the lakeshore¹) in dry season. If so, it means that the chimpanzees are forced to range wider because of human disturbance even within the protected area. An effective fire management plan is promptly required to cover the entire area of the park.

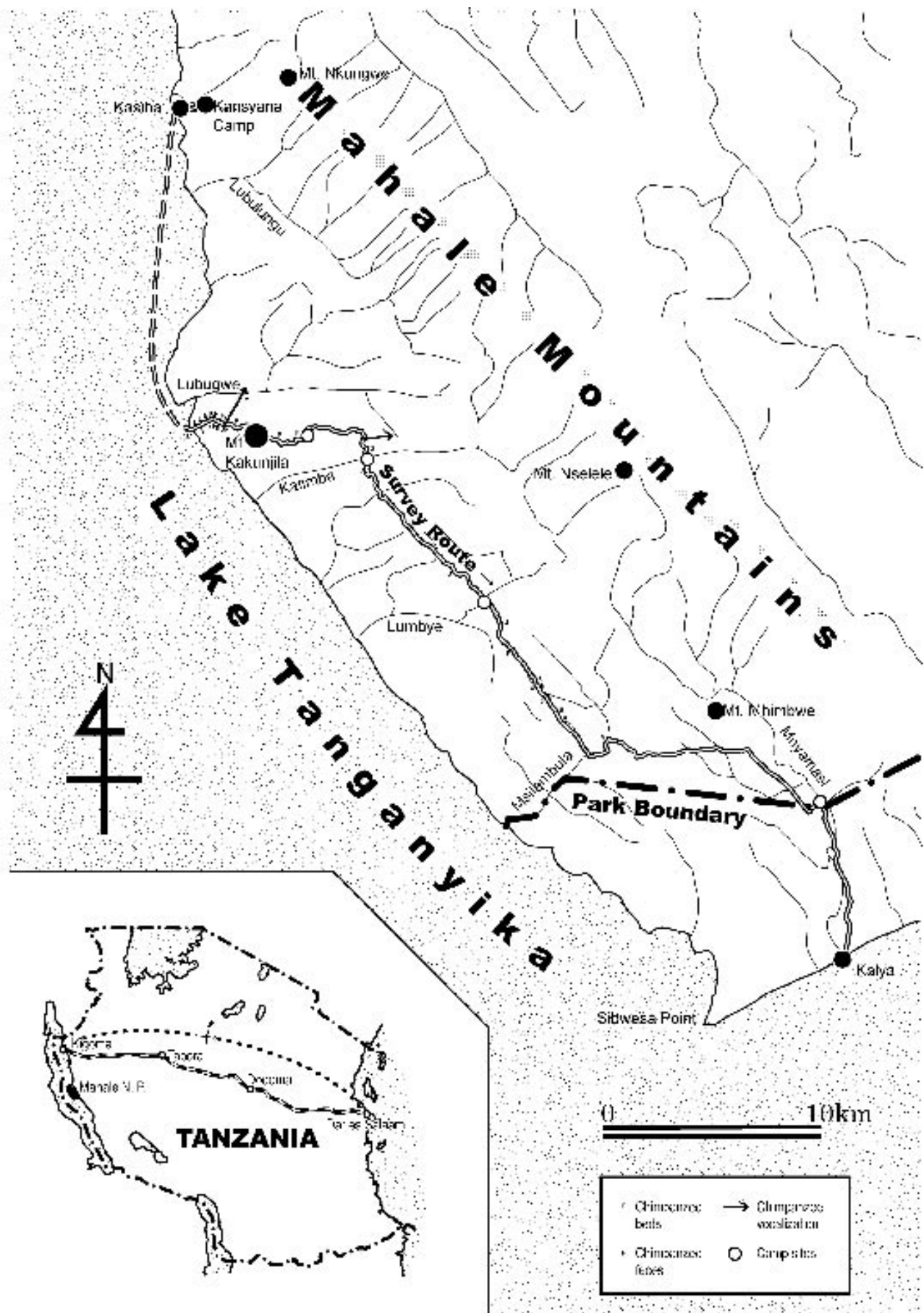


Fig 1. Southern part of the Mahale Mountains National Park and the survey route.

Table 2. Composition of the Host Tree Species of Chimpanzee Beds Found during the Survey.

Kitongwe Names	Host trees	Number of beds	Number of sites
	Scientific Names		
Mkoma	<i>Brachystegia bussei</i>	63	8
Mtulu	<i>Brachystegia spiciformis</i>	35	16
Mlama	<i>Combretum molle</i>	9	4
Kankundu	<i>Strychnos innocua</i>	5	2
Msongatti	<i>Diplorhynchus condylocarpon</i>	4	3
Mfula	<i>Isobertinia angolensis</i>	4	2
Mkokoti	<i>Monotes elegans</i>	3	3
Mkola	<i>Afzelia</i> spp.	3	1
Mwenje	<i>Pterocarpus tinctorius</i>	2	1
Mubanga	<i>Pericopsis angolensis</i>	2	1
Kabumbu	<i>Lannea schimperi</i>	2	1
Mubula	<i>Parinari curatellifolia</i>	1	1
Ikusu	<i>Uapaca kirkiana</i>	1	1
Kapala	<i>Hymenocardia acida</i>	1	1
Total		136	30

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REFERENCES

1. Kano T. 1972. Distribution and adaptation of the chimpanzee on the eastern shore of Lake Tanganyika. *Kyoto Univ Afr Studies* 7:37-129.
2. Nishida T (ed). 1990. *The Chimpanzees of the Mahale Mountains*. University of Tokyo Press, Tokyo.
3. Itoh N, Sakamaki T, Hamisi M, Kitopeni R, Bunengwa M, Matumla M, Athumani K, Mwami M, Bunengwa H. 1999. A new record of invasion by an unknown unit group into the center of M group territory. *Pan Afr News* 6: 8-10.
4. Nakamura M, Shimada M. 2002. Report of extensive survey in northwestern area of the Mahale Mountains National Park, Tanzania. *Unpublished Report to COSTECH, TANAPA and TAWIRI*.
5. Shimada M. 2003. A note on the southern neighboring groups of M group. *Pan Afr News* 10:11-14.
6. Uehara S 2002. Evidence of the leaf-clipping behavior by a chimpanzee of an unhabituated group at Mahale. *Pan Afr News* 9: 3-4.
7. Zamma K, Inoue E, Mwami M, Haluna B, Athumani S, Husen S 2004. On the chimpanzees of Kakungu, Karobwa and Ntakata. *Pan Afr News* 11: 8-10.
8. Nakamura M, Fukuda F 1999. Chimpanzees to the east of the Mahale Mountains. *Pan Afr News* 6: 5-7.
9. Nishida T, Uehara S, Kawanaka K (eds) 2002. [*The Mahale Chimpanzees*.] Kyoto University Press, Kyoto, in Japanese.