

Progress Report of the Survey of Chimpanzees in their Natural Habitat, Kabogo Point Area, Tanganyika

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(With 1 Map and 3 Figures)

In the Kabogo Point area, at the northern end of the Kungwe Bay Forest Reserve, we have been engaged since November, 1961 in the study of the life of chimpanzees (*Pan troglodytes schweinfurthii*) in their natural habitat. The aims of our study are two: i) the ecological study of the wild life of chimpanzees living in dry open forest country, the knowledge of which is expected to throw some light on the ecology of Early Man, when *Hominidae* evolved from its anthropoid ancestors; ii) the study of social life of chimpanzees.

Our attention was concentrated on the ecological side for the first year, from November, 1961, to December, 1962.

POPULATION, NOMADIC AREA

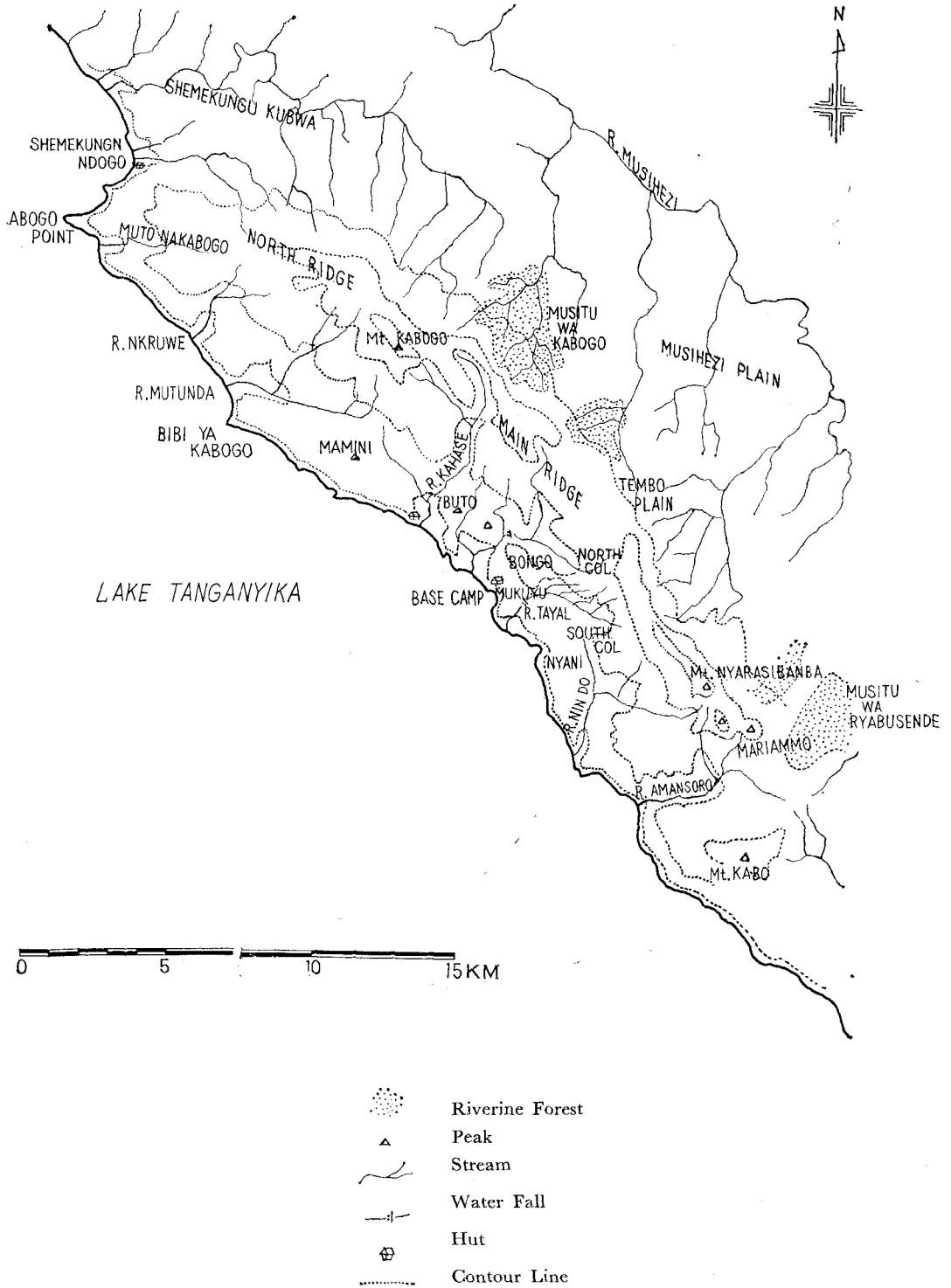
Chimpanzees in the area shown in the attached map are estimated to be 65 to 80 in number. Near the mouth of the Msihezi River (misspelled as Mslezi on maps), the northern end of their nomadic area, the frequent appearance of chimpanzees has been reported and we also observed them. In the south of the nomadic area, the hinterland of Sigunga village, there sometimes appear chimpanzees which constitute another group.

Across the Msihezi plain, the north side of the river Lugufu, there is a fairly large patch of evergreen forest, where a number of encounters with chimps have been reported by the natives. These chimps are apparently different from those in the mouth of the Msihezi River, for stretches of dry-type forest and big river separate this habitat from Kabogo.

TOPOGRAPHY AND VEGETATION OF THE AREA

Kabogo is a small mass of hills jutting out into Lake Tanganyika. Although the height of the main ridge is only 400 meters above the lake level, it is the only prominent protuberance along the monotonous coast-line of low lying lake-terraces between the estuary of the river Malagarasi and the Mahali Mountains.

Along the ridges, mostly flat-topped, and on the upper parts of the slopes is an open forest of *Brachystegia spiciformis*. The steep western flank of the main



Map of the Chimpanzee Habitat in Kabogo Point Area

ridge is covered with thick evergreen bushes of woody climbers, *Landolphia (Saba) spp.* and *Uvaria sp.* Tall evergreen riverine forests are found on the alluvium and on the elevated (old) flood plains along the mountain streams. Between *Brachystegia* open forest and riverine forest, and on the sub-mesic foothills, stand open forests of dense scrubs in the shape of a semi-closed canopy. *Diplorhynchus condylocarpon* and *Combretum gueinzii* are the most dominant in this type of vegetation. On the east of the main ridge spreads a plain of lake deposit, where develop more xeric types of vegetation — a kind of savanna parkland landscape. Such a savanna woodland vegetation is interspersed with Mbuga vegetation and with tall evergreen riverine forests on the foot of the main ridge.

INTER-GROUP RELATIONSHIP

From 65 to 80 chimpanzees living in this area usually form groups of small sizes. The size of a group is not constant, but varies from 2 or 3 heads to 20 to 30 heads.

Combination and separation of a group occur quite frequently. No antagonism is found between the two or more groups when they come across each other.

Although we have been unsuccessful in tracing a specific group for as long a period as it moves about this area, we may draw inferences from the data that a group is not restricted to any fixed part of this area, but is free to move about the greater part of it. The nomadic area of each group, therefore, extensively overlaps those of other groups.

The frequent combination-separation of groups (i.e. lack of constancy of group-size), non-antagonistic relationships among the groups, and common territory, as it were, are remarkable features of the social systems of chimpanzees, and these features are distinguished from those of non-anthropoid primates.

FOOD

Chimpanzees are generally fruit-eaters, but they also feed on leaves, new shoots, and other parts of plants. Table 1 is a list of the chimps' food recognized so far. Many kinds of leaves and parts of plants remain to be added.

It has not been observed yet that they eat animal food, except for one instance in which they ate termite or a kind of *Ipidae (Coleoptera)* on a decaying tree.

During our observation period, from 1961 to 1963, neither the quantity of various kinds of fruits nor the fruit season was erratic. With the annual fluctuation of the crop stated above, chimpanzees revealed that they are quite elastic and adaptable in the selection of their foods. It is, therefore, expected that the characteristics of the life of these chimps, as the dwellers of drier outskirts of the tropical rain forest, will come to light more fully, if the observation will be continued in the years of longer dry season.

NOMADISM — ITS SEASONAL CHANGE

The seasonal change of chimps' nomadism from November, 1961, to December, 1962, will be briefly summarized here.

Close correlation is found between the pattern of nomadism and the kind and abundance of the food the chimps mainly feed on. The beginning and the termination of the harvest season of their favorite fruits, therefore, may be chosen for the index of the division of their nomadic seasons.

- I. *Kasolio season I*: from the middle of November to the end of December, 1961.
 Main food: fruits of *Garcinia huillensis* (vernacular name: Kasolio)
 Movement & vegetation frequented: *Brachystegia* open forest. Pendulum-movement along the main ridge.
 Maximum population: 30-60; Group size: 15-30 heads. Fruits of Kasolio are very abundant.

- II. *Mbungo season*: from the beginning to the end of January, 1962.
 Main food: fruits of woody climbers, *Saba species A*. (vernacular name: Mbungo)
 Movement & vegetation: During the early half of the month they wander along the top of mountain streams; in the later half, always found in large number along a certain valley where this plant species is abundant.
 Maximum population: 40; Group size: 15-30 heads.

- III. *Katimba season*: from the beginning to nearly the end of February, 1962.
 Main food: fruits of woody climbers, *Saba species B*. (vernacular name: Katimba)
 Movement & vegetation: confined to riverine forest stretches where this plant is abundant.
 Maximum population: 30; Group size: 6-15 heads.

- IV. *Later rai y season*: from the end of February to the end of May, 1962.
 No dominant food. The total amount of the fruit crops is fairly small. A period of food in short supply. Leaves, fruits of various plant species of riverine forest.
 Movement & vegetation etc.: Small (Familioid) groups are found sporadically distributed in several of the riverine forest patches. Movement of a group was very erratic. An occurrence of larger groups was found only once, when they came to eat fruit of *Ficus sp.* From June to August 10: Long break of survey on account of staying out of Kabogo.

- V. *Later dry season*: from the middle of August to the middle of September, 1962.
Food: neither abundant nor poor in quantity. Fruits of *Strychnos spp.*, *Parinari sp.* and *Afromonum sp.* are the most dominant. But all of them were close to the end of their seasons. Later half of *Saba species C* (vernacular name: Libuhu) begins to ripen.
Movement & vegetation: Confined to the riverine forest during the high noon, feeding in the surrounding *Mbuga* or savanna woodland in the early morning and in the late evening. Small groups of 7-10 heads, dispersed territorially in the scattered riverine forest stretches. Larger grouping of about 25 heads found only once feeding on *Ficus* fruits.
- VI. *Kasolio season II*: from the middle of September to the early November, 1962.
Food: Fruits of Kasolio (not abundant, remarkably different from the fruit season of the previous year), fruits of *Saba species C* (Libuhu) were taken even more than Kasolio.
Movement & vegetation etc.: (1) Pendulum-movement through *Brachystegia* open forest, (2) Vertical movement connecting open forest (Kasolio-zone) and riverine brush (Libuhu-zone), (3) Small groups scattering over the area. Transition of types of nomadism, (1), (2), to (3), is seen in accordance with the decreasing crops of Kasolio fruits. The northern and southern halves of the area, each had a maximum population of 30 heads. Group size: 7-15 heads.
- VII. *Season of mbungo and katimba*: from the middle of November to the end of December, 1962.
Food: fruits of the both species ripened at the same time. Both of them are main foods of chimps.
Movement & vegetation: riverine forest, for Katimba, and open forest to riverine edge (for Mbungo). Combination of pendulum movement and confinement to riverine tract.
Maximum Population: 30 or more; Group size: 10-15 heads. In the northern half of the area, there were other groups, but their nomadism is uncertain. They were dispersed in small groups in December.

As is shown in the above description, chimpanzees present considerable seasonal change in the type of nomadism, the utilization of vegetation types, and especially in the mode of grouping. It is an interesting phenomenon, of survival value for them, that these changes correspond with the changes of the seasons and the quantity of the foods.

Vernacular Name	Botanical Name	Habitat	Parts Eaten
Bulobe	<i>Uapaca nitida</i>	O	Fruit
Busantu	<i>Diospyros sp.</i>	O	Fruit
Bukome	<i>Anisophylla sp.</i>	O	?
Kasolio	<i>Garcinia huillensis</i>	O	Fruit
Kusu	<i>Uapaca kirkiana</i>	O, M	Fruit
Mturu	<i>Brachystegia spiciformis</i>	O	Leaf
Sindui	<i>Anisophylla sp.</i>	O, M (ridge)	Fruit
Bufira	<i>Annona senegalensis</i>	M	New Leaf
Bugongoro	<i>Canthium crassum</i>	M, SM	Fruit
Bwaie	<i>Strychnos sp.</i>	M, SM, G	Fruit
Kantonga	<i>Strychnos sp.</i>	M, SM, G	Fruit
Kankundu	<i>Strychnos sp.</i>	M, SM, G	Fruit
Kafururegeya	<i>Annona sp.</i>	M, O	Fruit
Mandagara	?	M, O (floor)	Leaf
Matunguru	<i>Afromonum sp.</i>	M, SM, G	{Leaf, Stem
Mbura	<i>Parinari sp.</i>	M, SM	{Fruit
Mhongoro	<i>Terminalia mollis</i>	M, SM	Fruit
Mpapa	?	M	Fruit
Buti	<i>Xanthium sp.</i>	R, bush	Fruit
Duhie	?	R	Fruit
Fifije	?	R (floor)	Fruit
Furungo	?	M, R (edge)	Fruit
Iromeo	?	R	Fruit
Katimba	<i>Saba sp.</i>	R	Fruit
Libuhu	<i>Saba sp.</i>	R	Fruit
Liluhambwa	<i>Ficus sp.</i>	R	Fruit
Kaposa	<i>Chaetacme aristata</i>	R	Fruit
Kaburampako	<i>Vitex sp.</i>	R, M	{New Leaf
Marundira	?	R	{Fruit
Mbungo	<i>Saba sp.</i>	R. (edge), M, O	Fruit
Mkuyu	<i>Ficus sp.</i>	R	Fruit
Mzingatti	?	R	{New Leaf
Njabure	?	R	{Fruit
Nyundo	<i>Rinocera sp.</i>	R	Fruit
Sikusa	?	R	Flower
Mkrungu, Mwenge	<i>Peterocarpus sp.</i>	SW, SM	New Leaf
Palike	?	?	Fruit
?	<i>Dioscorea sp.</i>	R, M (floor)	Leaf

Table 1. Food of Chimpanzees.

Season													Quantity	Degree of their Preference			
'61	'62										'63						
Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.		
							*									II+	B
								*			*	*	*			II+	A
									*							I-II	?
							*	*	*	*	*	*	*			I'	A
									*							III	A
							*									I	C
							*	*	*							II-	A
								*								II	?
		*														II	?
							*									II+	A
							*									II+	A
												*	*			II+	A
																II+	?
																III	C
		*							*							I	A-B
			*						*							I-II	A
																I-	B-C
							*									I-II	C
								*								I	A-B
																II	A-B
																II	?
				*					*							II+	?
								*								II	A-B
	*	*							*		*	*	*			I	A
								*	*	*	*					I	A
																II	A
																II	B
														*	*	I	A
																II	?
*	*	*						*	*	*	*	*				I	A
								*								II	A
			*											*	*	II-	B
								*	*							II-	A
												*				I-II	A
								*								I-II	?
							*									I	A
							*									?	?
													*	*		I-II	B-A

Legend to Table 1.

R: riverine forest M: Combretum-Diplorhynchus open forest (submesic type)

O: Brachystegia open forest SW: savanna woodland SM: Mbuga vegetation

A: very fond of B: medium C: very rarely eat

I-III: three scales of relative abundance

I < II < III

?: unconfirmed

GROUPING

So far we have used the word 'group' in a vague sense. Instances of observation in which we could make out all the components of the groups are insufficient in number to have a general idea of the chimps' social systems. At the present state of our work, the size and nature of the various groupings may be summarized as follows:

- a) Solitary: No solitary female has been observed. Whether the individuals found alone are completely independent of the other chimps is not certain.
- b) Mother, baby and/or child: They are sometimes found wandering by themselves, at a rather long distance from the other chimps. But they do not seem to separate longer than temporarily.
- c) Group of pre-adult individuals: They are frequently observed to form a group independently of the rest (mother-group). Usually 3 - 5 heads. A very interesting fact is that 1 or 2 adolescent females are found in a group of this type. They also join the mother-group eventually.
- d) Familioid group (a tentative nomenclature): 1 Adult male, 1 or 2 adult females, juveniles, and infants. This type of grouping is the one that we met with most frequently. A few groups are observed to include 2 adult males. Sometimes one under 2 years old. This could be looked upon as the most fundamental grouping.
- e) Group of 10 to 15 heads, or more: Combination of two or more groups of the types c) and d). Groupings of 30 heads or more occurred sometimes but were not long-lasting.

The stability of the familioid groups, degree of intimacy between the different familioid groups, origin of the group of type c) and its future, are the problems to be solved in future. And the most important phases of the sociology of chimpanzees may be focused on these problems.

We are still far from satisfactorily completing individual identification. This way of approach, we think, is indispensable for tackling the above problems. So as to make observations easy at short distance, to facilitate the individual identification, we are trying to bait them, but have not had success yet. Fortunately, however, they are showing signs of gradually getting accustomed to the presence of observers.

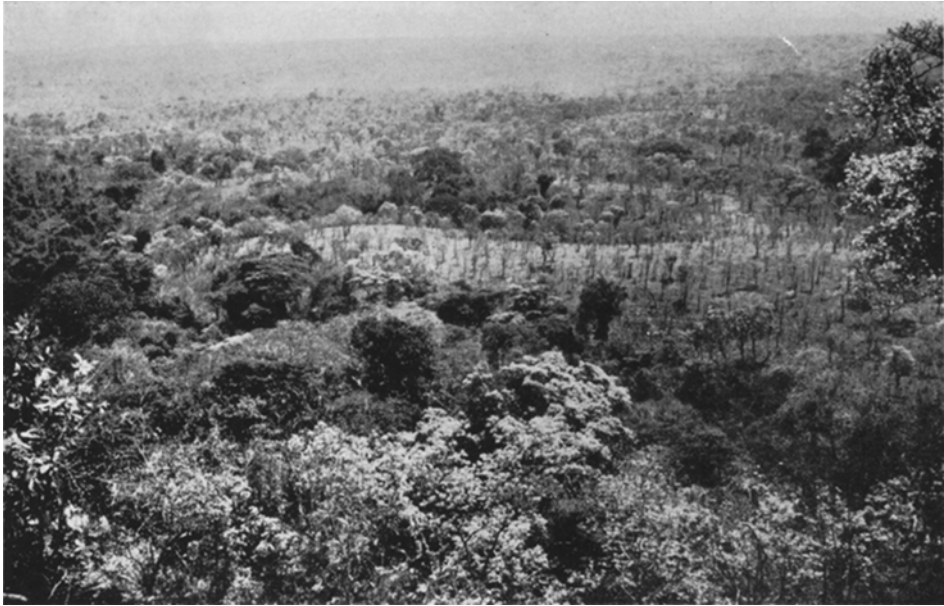


Fig. 1. Savanna woodland vegetation, mixed with Mbunga (parkland vegetation) and with tall evergreen riverine forest.



Fig. 2. Savanna parkland vegetation in dry season on the main ridge.



Fig. 3. *Brachystegia* open forest, main trees are *Brachystegia beissei* (Mgongole)