<Article>

Baboon invasion into chimpanzee habitat.

Toshisada Nishida
Department of Zoology, Kyoto University

It appears that the populations of yellow baboons have recently increased in number and that they have penetrated more and more into the interior part of the Kasoje study area.

In 1973-1974 when Shigeo Uehara and I made an ecological survey of yellow baboons, there were no baboon groups within the greater part of the M group range. In particular, we could not find any baboon groups between Kasiha and Kangwena. What we might call "the northern group" was ranging along the shoreline from the south of Kasiha village to Bilenge. "The southern group" was ranging south of Kangwena, and its southernmost boundary was not known. With the assistance of Mr. Almasi Kasulamemba, we identified some adult male and female baboons of the northern group and knew the ranging pattern of the group. Its range was strictly limited to the open areas along the shoreline, and never extended to the interior woodland or forest (1).

The recent changes are twofold. First, there are not two, but at least four baboons groups within the study area of the M group (2). Second, it appears that ranging patterns have changed dramatically. Some baboon groups have spread deeper and deeper into the interior part of the M group range. I noticed this for the first time in the early 1990s when I found some remnants of chewed stalks of elephant grasses along the path from Kasiha village to Kansyana Camp. The

Yellow baboons in Mahale

pattern of the distribution of discarded stalks and the parts eaten differed delicately from those eaten by chimpanzees, suggesting foraging activities by baboons. In 1995, one of the groups came to Kansyana Camp for the first time and began to feed on the fruits of a giant tree of *Pseudospondias microcarpa*, which had been previously monopolized by M group chimpanzees.

By that time, the fruits of mangos and guavas had already begun to be eaten by baboons. Since they can eat the unripe pulp of these fruits, chimpanzees have scarcely any opportunity to eat these favorite fruits. Apparently, feeding competition has become severer between these baboons and chimpanzees.

Encounters between baboons and chimpanzees were first observed by me in 1991 and since then have increased year by year, especially in the open, dry river bed of large valleys, on the *Uapaca* woodland, and in the proximity of oil palm groves. Chimpanzees appear to sense the loss of food caused by sympatric baboons because even if they are far away, chimpanzees are likely to bark at them when the baboons are in the area where food is abundant. In direct encounters, chimpanzees are usually dominant over baboons. For example one adult male chimpanzee can chase 5 to 10 baboons by charging displays. Once, five male chimpanzees were seen to concertedly chase a whole group of yellow baboons.

Although chimpanzees are apparently dominant over yellow baboons in the direct feeding competition, they lose a lot of potential food resources through indirect competition. Nakamura's first observation of baboon predation by M group chimpanzees is not accidental.

Since 1994, we have noticed the tendency for M group chimpanzees to move more often in the higher part of the mountains. This shift of the ranging might have been caused by the invasion by baboons into the forested lowland area that had previously not been used by them.

The prosperity of yellow baboons is puzzling. Since 1975 when bush fires were banned within the study area of M group chimpanzees, open grasslands and woodlands have changed to denser vegetation. For example, many open savanna/woodlands covered with such species as *Acacia* and *Harungana* and grassland such as *Imperata* and *Pennisetun* have turned to secondary forests covered with such pioneer trees as *Ficus vallis-choudae*, *Voacanga lutescens*, *Anthocleista schweinfurthii*, *Pycnanthus angolensis*, and *Myrianthus holstii*. Therefore, for yellow baboons preferring the open vegetation, the changes that have occurred in Mahale are not relevant to the expansion of baboons' ranges. This puzzle shows the need for the detailed ecological study of baboons.

References

1. Nishida, T., S. Uehara, and R. Nyundo, 1979. Predatory behavior among wild chimpanzees of the Mahale Mountains. *Primates* 20: 1-20.

2. Uehara S., 1997. Distribution and abundance of some diurnal mammals including five monkeys in the Kasoje Area of the Mahale Mountains, Tanzania. *Mahale Mountains Chimpanzee Research Project, Ecological Report#* 107.