

Chimpanzees in Uganda

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In Uganda chimpanzees and gorillas, two of the most spectacular living beings on earth, still survive in their natural state in some forests. Neither species can adapt for long to man-made changes in their environment; they will only survive if they are actively protected in untouched wilderness areas. In 1971–72, with the approval of the Uganda National Research Council, I made surveys in the Budongo and Bwindi forests to estimate chimpanzee numbers, and suggested two such areas, one of which, in the north-east Budongo forest, has since been created a nature reserve.

The simplest way to make a population estimate is to count heads in a given sample area and then multiply by the number of times that the sample fits into the population's whole area. This method works if the whole area is uniform; but these forests are not uniform, and I found it impossible to find representative areas. Reynolds³ used this method to estimate chimpanzees in Budongo, and arrived at 1000 to 2000 chimps for the whole forest. My rough estimate would be 500 to 1000 chimps.

The method I used was the line-transect, in which the observer walks in a straight line at a constant speed recording the animals he sees and/or hears. When conditions are carefully chosen, the method works reasonably well as a means of comparison, either between species in one habitat or between one species in different habitats. The aim of this study was to find comparable data on chimp distribution in different parts of their habitat. I tried to cover both untouched areas of the forest and areas where the treatment and regrowth showed different stages of development.

The Budongo survey was done between September 1971 and May 1972. In order to find out whether the chimps migrated seasonally the same survey was done twice, the first time in the rainy season of September–December and into the beginning of the dry season, and the second time from the end of the dry season until the rainy season of February–May. Bwindi forest was surveyed only once, in the dry season July/August 1972, partly because the second Budongo survey had confirmed that the chimps did not migrate, and partly because working in the rainy season there is extremely difficult.

As transects we used old logging tracks and paths made by animals, poachers or ourselves. Surveying two transects eighty times showed that twenty times gave roughly the same mean values, so all others were done only twenty times. All chimp vocalisations were recorded, and also all sightings of both chimps and monkeys – blue monkey *Cercopithecus mitis*, red-tailed monkey *C. ascanius*, *C. lhoesti*, black and white colobus *Colobus abyssinicus*, baboons *Papio anubis*. *C. mitis* and *C. ascanius* were often mixed, and there was not time to record them separately. Walking at about equal speed along each transect made it possible to plot each record on comparable graphs.

Table 1 (on the Budongo map) gives density values for different primate species in different parts of Budongo, and Table 3 illustrates the differences between treated and untreated forest more clearly. Forestry management in the Budongo forest consists of:

1. selective harvesting of valuable timber species, especially mahoganies – *Kaya*, *Entandrophragma*;
2. selective weeding of unsaleable tree species, especially fig trees *Ficus* and ironwood *Cynometra* with arboricides;
3. partly replanting with mahoganies. The ecological balance is changed by altering the relative abundance of species, apparently not directly by the use of arboricides.

If it is assumed that the density of forest primates is natural and optimal in old untouched forests, it is also safe to assume that chimpanzees decrease when their environment is altered; on the other hand colobus, blue and redtail monkeys increase when the environment is altered and regenerates (Table 3). Baboons, not being typical forest animals, do not follow this pattern.

It might be that the particular reason for the chimpanzee decline is selective tree weeding, for in Budongo *Ficus* and *Cynometra* fruits are their most important food.⁴

Table 2 (on the Bwindi map) gives density values for primates in different parts of Bwindi forest. The values for monkeys are more uniform than in Budongo, possibly because the vegetation is more uniform. Bwindi does not receive the intensive treatment that Budongo gets, but the pitsaws are scattered over the whole forest. Very few areas are undisturbed and the values are considerably lower, possibly because of Bwindi's high altitude and cool climate. Chimpanzees occur only sporadically in the western lower parts of the forest. Gorillas, being too scarce to be registered by this method, were seen only once.

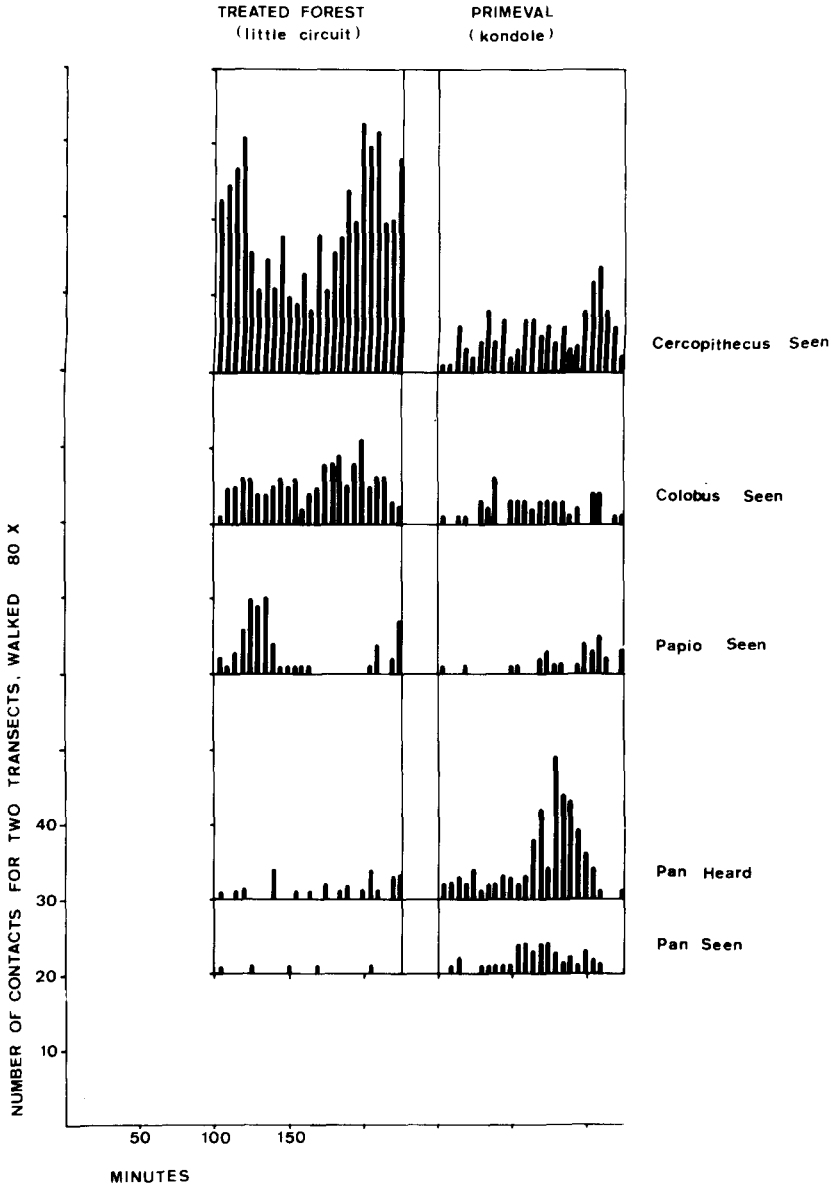
In the *Vegetation of Uganda* it was calculated that Budongo contained 28 per cent of Uganda's usable timber on only 6 per cent of the country's forest, so the second nature reserve (compartment W30) established in 1972 in the untouched north-east of this very valuable forest, is much appreciated by conservationists. It consists of a climax forest with mostly ironwood (*Cynometra*), covers 1432 sq miles, and contains, probably the highest chimpanzee density in East Africa. The other nature reserve (N 15, 2561 sq miles) established many years ago in south-west Budongo, conserves untouched vegetation types such as savanna and juvenile and mixed forests with some beautiful mahoganies.

These two reserves are very rich in mahoganies, but only those in the new reserve will be cut, a considerable sacrifice for the country's timber industry. But the new reserve was established not just to protect chimps, but because the Forestry Department realised the necessity of conserving some well grown *Cynometra* forest as a representative sample of Budongo, to complement the mixed and colonising forest of the other nature reserve.

Monkeys are thriving in Budongo, and, without becoming pests, can be enjoyed even by casual visitors. The chimpanzee, however, seems to be an evolutionary failure. Nowhere in Africa can it adapt to major changes in its environment. Nobody knows why this is so, but here in Budongo might be found a key to its survival.

The scenic beauty of the Bwindi landscape is unsurpassed in Uganda as one drives along the Kabale-Kayonza road. Many a visitor to Ruhiza Resthouse catches a glimpse of Uganda's last mountain gorillas. Most of the forest is inaccessible and impenetrable except for local people, and it is they who give cause for concern. Judging from the rapid destruction of the remaining areas

Table 3



of forest outside the forest reserve, the frequency of unlicensed pitsaws inside the reserve, the abundance of snares and traps, and the scarcity of animals, the forest and its wildlife are in a bad state. Inaccessibility poses the greatest difficulty for management; three forest rangers dare not and cannot cope with a task of this magnitude.

The one area that could be controlled is the Itama river system in the north-west of Bwindi, being the only penetrable area of the forest, because a system of irrigation ditches, with paths alongside, which were virtually forgotten and unknown, lead into it for about 10 kilometres from the now dilapidated Rwanzo bismuth mine. Birds of the forest canopy can be observed easily here – it is unique in this respect – and mammals such as yellowback duiker *Cephalophus silvicultor*, black-fronted duiker *C. nigrifrons*, and giant forest hog *Hylochoerus meinertzhageni* would recover quickly if poaching were stopped. Gorillas occur, and for chimps it seems to be the only place in the whole forest. With proper attention this area could still be saved.

Uganda has several other forests in which chimpanzees occur in places – Kibale, Kasyoha, Kitomi, Kalinzu, Maramagambo, Ruwenzori, but nowhere is the human population pressure so small as in the north-eastern Budongo and nowhere is the panorama so breathtaking as in Bwindi. Maramagambo, in Ruwenzori National Park, is sufficiently protected, but protection in the others depends on creating a peaceful coexistence between forest animals and foresters. A good contribution would be not to weed but to market and regenerate *Cynometra*, and to spare one fig species preferably *Ficus mucoso*, for in Budongo these two are the chimpanzees' main food plants for most of the year.⁴

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