



**Assessment of the impact of a newly introduced free-ranging group  
of chimpanzees (*Pan troglodytes schweinfurthii*) on the vegetation  
of Ngamba Island, Lake Victoria, Uganda**

by

**Claudia Ulrike Regina Schoene**

**Submitted in partial fulfillment for the degree**

**Magister Scientiae (Wildlife Management)**

**In the Faculty of Natural & Agricultural Science**

**University of Pretoria**

**Pretoria**

**November 2003**



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*Meinen Eltern*

*in*

*Liebe und Dankbarkeit*

*&*

*Tim*

*the best of all companions*

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## SUMMARY

**Assessment of the impact of a newly introduced free-ranging group of chimpanzees  
(*Pan troglodytes schweinfurthii*) on the vegetation of Ngamba Island, Lake Victoria  
Uganda**

**Claudia Ulrike Regina Schoene**

**Supervisor: Professor Gretel van Rooyen  
Co-supervisor: Professor Wouter van Hoven  
at the  
Centre for Wildlife Management  
for the degree of  
Magister Scientiae (Wildlife Management)**

The purpose of the current research project was to undertake a thorough quantitative and qualitative survey of the vegetation on Ngamba Island. Based on the results of this survey suggestions are made for future management of the chimpanzees on the island.

It was assumed that the introduction of chimpanzees onto an island that was previously not inhabited by this species would have an (to be defined) impact on the environment in general, and the vegetation cover, in particular.

The woody vegetation was sampled and analysed using the varying quadrat plot method. This method gives the following results per (a) species, (b) stem growth form and (c) height class: 1. Canopy regime at different height levels; 2. Total projected canopy cover; and 3. Density.

The results of the vegetation analysis showed that at this stage the forest structure on Ngamba Island still represents a healthy secondary rain forest cover.

A major impact chimpanzees have on the woody vegetation cover of Ngamba Island is that they defoliate and destroy trees of all height classes.

The number of mature trees that a parent tree produces per fruiting period might often be as little as  $\leq 1$ . Even though chimpanzees act as seed dispersers in their natural habitat the



impressive number of seeds dispersed by each individual chimpanzee is therefore put into perspective by the very low final recruitment rate. Resulting from the above it is postulated that the impact of the Ngamba Island chimpanzees as seed dispersers for selected woody vegetation species is of low importance if not negligible. It is by far outweighed by the destruction caused to the secondary rain forest cover of the Island by this newly introduced species.

Using different approaches and calculations to estimate the necessary home ranges for chimpanzees in a confined habitat the areas calculated range from 5 – 56 hectare per chimpanzee. Even though, there is an 11.2-fold difference between these estimates they indicate nevertheless, that Ngamba Island with an area of 42.40 ha of secondary rain forest cover and 16 adult and 17 juvenile chimpanzees is already highly overstocked.

In summary the impact the newly introduced species of chimpanzees on Ngamba Island will have over time on the secondary rain forest cover of their forest refuge is that of continuing destruction. Using a rate of destruction of about 0.05 ha per chimpanzee per year the secondary rain forest cover of Ngamba Island will be completely destroyed in 53 years with a stocking density of 16 adult chimpanzees. Increasing stocking density - also through maturing of the juvenile chimpanzees currently present on the Island into adulthood - will increase the rate of destruction of the woody vegetation cover of Ngamba Island proportionally.