

USING NON-INVASIVE MOLECULAR TECHNIQUES TO OBTAIN A POPULATION
COUNT OF HIGHLY ENDANGERED NIGERIAN GORILLAS

Maggie Cocca

Abstract

The Cross River gorilla is the most endangered of the 4 subspecies of gorilla. The goal of this project was to obtain an abundance (population) count of the Cross River gorillas located in the Mbe Mountains of Nigeria through non-invasive molecular methods. DNA was extracted from collected fecal samples and genotyped at multiple hypervariable loci. This project conservatively estimated the Mbe Mountain Cross River Gorilla population at a minimum of 33 individuals.

There were multiple objectives in undertaking this research project. Molecular methods were used to obtain a population estimate of the Cross River gorillas located in the Mbe Mountains through non-invasive methods to avoid their habituation to humans. These methods allowed an assessment of the demographics of the gorillas, which can be used to inform conservation strategies (e.g., the Regional Action Plan for the Conservation of the Cross River Gorilla (*Gorilla gorilla diehli*)). Beyond these immediate goals, the study is a test of how time efficient and useful non-invasive molecular techniques are for estimating the size of an endangered population. Because the project used the same methods, enzymes, and primers as are used in forensic genetic settings the experience is applicable to human settings as well.