James Herrera January 30, 2008

Madagascar separated from Africa 80-90 million years ago. The primates found on the island, all lemurs, are unique and represent a third, independent branch of our lineage. Lemurs flourished on the island in the absence of monkeys and apes. Since the arrival of humans some 2,000 years ago, as many as 50% of all lemur species have vanished. Today, all lemur populations are threatened by human activities. However, some studies suggest that lemur populations may actually be larger in "disturbed" forests, as opposed to "pristine" habitats. I propose to test the hypothesis that human activity can actually increase the numbers of lemurs in a forest, instead of causing a population decline.

I will conduct this study in Ranomafana National Park (RNP), a 43,500 ha forest in southeastern Madagascar, which contains both types of habitats. The park is home for two unusual, nocturnal leaf eating lemurs, the woolly lemur (*Avahi laniger*) and the sportive lemur (*Lepilemur microdon*). Little is known of these shy lemurs. Because both are dependent on leaves as their primary food source, they are ideal for understanding how humans can have an impact on lemur populations.

A primatology field methods course at UM prepared me to conduct this study and analyze the data I collect. I know RNP from a study abroad program, which spurred me to continue studying lemurs in the wild. I have an established working relationship with the people and the facilities of the park and have been invited to return by the park founder. An integral park of my project will be working with a Malagasy student trainee. So, this study will actually provide an invaluable real-life experience for two students.

I will census the two kinds of lemurs in two habitats: 1) a heavily disturbed, regenerating rainforest, and 2) a pristine rainforest. Since both species are active at night, it is unclear how they choose where to feed. By documenting populations in each forest, I may be able to provide some answers. The *Avahi* is reported to be the most specialized leaf eater, and greatest population densities may occur in undisturbed forests. The more generalized *Lepilemur*, who eats a greater variety of leaves and some fruit, may be found at greater densities in regenerating forests. To date, no one knows.

I will walk transects in each forest equally, noting taxa (individual identity if possible), time, location, and behavior. Survey area will be calculated using the 50% fall off criterion for mean perpendicular sighting distance and the number of sightings per area surveyed will calculate their density.

By going back to Madagascar to do this study, I will make the critical move from "the book" to genuine field research. Fieldwork is one of the cornerstones of anthropological research. Being able to conduct a study like this, while still an undergraduate, will be an invaluable step towards the future for me. In addition, I will provide data on population parameters for these endangered primates. I hope that this work will lead to additional field research and help conservationists preserve the unique lemurs of Madagascar.