Australian National University

PUBLIC SEMINAR

Response of wild howler monkey population to a hurricane. The roles of food abundance, nutrition, stress and parasites in population recovery.

Thursday 3 May 2012 1pm

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Gould Seminar Room (Room 235) Gould building, 116 Daley Road, ANU

A fundamental goal of ecology is determining factors that predict the abundance of wild animal populations, however due to the multifactorial processes at work this can be difficult. One of the best ways to assess the factors that influence population density is to study a population before and after a catastrophic event. Since 2001, I have taken advantage of the opportunity to study the effects of a category 4 hurricane on a wild new world monkey population for which pre-hurricane data were available. In October 2001, Hurricane Iris made landfall in Southern Belize resulting in substantial damage to the 96 km^2 Monkey River watershed forest fragment that is home to a population of black howler monkey (*Alouatta pigra*) that had been under study since 1998.

Using demographic data collected from 2001 – 2011, this talk will explain the 10 year recovery pattern of these monkeys looking at changes in population density, group size and composition, rates of reproduction and infant survival. Then, using behavioral, dietary and phenological data, along with plant and fecal samples, I will investigate the roles of food abundance, nutrition, stress and parasites in determining changes to population demographics during this recovery. Specifically, I will concentrate on the period of time where there was a shift from population decline to population growth to try to determine which factors may have been limiting population size. After discussing each variable on its own, I will present results of a path analysis that looks at the interaction between these variables and how they may have affected population density indirectly through each other. This study is the first long term account of the recovery of a wild monkey population to a hurricane and highlights the importance of taking a multifactorial approach when trying to understand factors that regulate population density of wild animals.

Presented by

Division of Evolution, Ecology & Genetics

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