1125-VM-3139    **Matthew Joshua Buhr** (`matthew_buhr2@hotmail.com`), 1519 n 122nd plz, Apartment 2, Omaha, NE 68154, and **Jose Flores\*** (`matthew_buhr2@hotmail.com`), 1519 n 122nd plz, 2, omaha, NE 68154. *Spider Monkeys in Fragmented Landscapes: A Discrete Mathematical Model.*

We implement a discrete model to study the population dynamics of Ateles hybridus in a single patch. Since data suggest a population level of under one thousand inhabitants, a discrete model is the most suitable. The different patches resemble a landscape which has been fragmented over the past few years particularly in Colombia. Given the population, the population is divided into categories by sex: male and female. Furthermore, the population is broken down so that the female population is broken into subgroups: adult females and young females, to account for an age of reproductive ability. Additionally, females are the dispersing sex in spider monkeys. In our population, a young female acquires its reproductive ability around their seventh year, at which point they disperse from their group or family in search of another group where they will spend their reproductive life. We also consider the possibility that their new patch has an unfit operational sex ratio in which some females who make a poor decision on a new patch may never reproduce.We analyze equilibria, and modify parameters to simulate different initial conditions in a real-life model to conclude how to best handle spider monkey populations. (Received September 21, 2016)