

COMPARISON OF MALE-FEMALE VERSUS SAME GENDER SOCIAL RELATIONSHIPS IN HOWLER MONKEYS (*ALLOUATA PALLIATA*) IN A NEOTROPICAL AGRICULTURAL LANDSCAPE Hannah Strauss-Albee, Macalester College
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Little is known about the different social behaviors among mantled howler monkeys (*Alouata palliata*) in west-central Costa Rica, although differences have been detected through related research topics. This study details the types of costs and benefits exchanged between both male-female and same gender social relationships by recording frequency of occurrence of howler behavior toward one another as well as outside stimuli during March and April 2012 in Curu Wildlife National Refuge and Hacienda (CWR) Puntarenas, Costa Rica. Females were approached significantly more often than males ($P=0.0001$). Females groomed males significantly more frequently than males groomed females ($P=0.0001$). Females were approached significantly more times than males, and the number of times males approached females was higher than in any other relationship ($P=0.0001$). Behaviors recorded also indicated that young are more attached to females than males and females are subordinate to all males in the dominance hierarchy. The frequency of males reacting to an outside stimulus was greater than females reactions ($P=0.0001$). This study is aimed to help further understand the differences in relationships in howlers and the evolution of their gender development. There has been a large amount of research completed on gender differences in social relationships of white-faced capuchins, so extending this research into a different type of monkey will benefit the world of primate science and behavior investigation. The objectives of my study were to: a) describe the types of costs and benefits exchanged between the sexes of howlers, b) determine how male-male and male-female relationships of Costa Rican howlers compare to Panama howlers (Wang and Milton 2003), c) determine how male-female relationships differ from same sex relationships in howler monkeys.