

**BEHAVIORAL DIFFERENCES BETWEEN THE SEXES AND INDIVIDUALS OF A FAMILIAR GROUP OF THREE-TOED SLOTHS (*BRADYPUS VARIEGATUS*) IN A COCOA AGROFOREST**

Joseph O'Neil, Macalester College

Advisor: MS Mike McCoy

Little is currently known about the behavior of the brown-throated three-toed sloth (*Bradypus variegatus*) because of the difficulty of finding it in the wild. In a riparian forest juxtaposed to a cocoa agroforest in Limón province, Costa Rica, these sloths could be easily observed due to increased visibility in the more open forest and lower tree elevations, allowing them to be equipped with radio collars. A familiar group of eight sloths, including three males and five females, was observed for eight weeks. This study compared territorial and behavioral differences between the genders, territorial and behavioral differences between individuals, and behavioral differences from weather conditions. Data was collected by locating each sloth twice daily and recording its location and behavior at each relocation. The two genders had different tree species usage ( $P < 0.0001$ ), tree height usage ( $P < 0.0001$ ), and distance from the dominant male ( $P < 0.0001$ ), but had no difference in branch movement ( $P = 0.9922$ ) or observed activity ( $P = 0.9695$ ). Individual sloths had different tree species usage ( $P < 0.0001$ ), tree movement ( $P = 0.0016$ ), and observed activity ( $P = 0.039$ ). Sloths tended to be lower in the trees during sunny and partially cloudy weather ( $P = 0.0212$ ) and moved more during sunny weather, almost significantly so ( $P = 0.0709$ ). There was more variation in sloth movement and activities between individuals than between sexes. There seems to be more variation in behavior between the individual sloths than there is between the genders. The sloth's territory differed between each sex. Males and females lived different distances from the dominant male and in different tree species. These data indicate that each sloth seems to behave in a unique manner regardless of its sex, whereas its territorial habits are more determined by sex.