

# **HOME RANGE BEHAVIORAL ECOLOGY OF TWO-TOED HOFFMANN'S SLOTHS (*Choloepus hoffmanni*): A DOMINANT MALE AND HIS FOUR-MEMBER HAREM ON A CACAO FARM IN NORTHEASTERN LIMÓN PROVINCE, COSTA RICA**

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Mating behavior of two-toed Hoffmann's sloths (*Choloepus hoffmanni*) has proven difficult to characterize. They have notoriously low metabolic rates, which introduces the unique factor of limited mobility into consideration. Peery and Pauli (2012) analyzed sloth dispersal systems and genetic characterization to conclude that sloths likely practice loose polygyny with some degree of promiscuity. However, there is need to monitor the daily, weekly and monthly and longer period interactions of a single harem to continue to observe the effect limited mobility has on an animal mating system. I studied the home range ecology of a harem of Hoffmann's sloths (1 dominant male, 4 females and 6 offspring) on the FINMAC cacao plantation in Pueblo Nuevo de Villa Franca de Guacimo, Limon, Costa Rica for 5 weeks from 27 April to 29 May 2015. I tracked and observed them daily using radio-telemetry. The dominant male had a home range of 10.40 ha which was significantly larger than all the other sloths in his harem. He moved around his territory more than any of the other sloths during the month. According to his weekly distances from all four females, the dominant male visited each one equally, not spending significantly more time with one female over another. The dominant male's study-long home range encompassed all four females and excluded any other males in the core of his home range. In conjuncture with the restrictive factor of limited mobility, it is impossible for the dominant male sloth to directly defend all of his females from all other competitors. This suggests that dominant male sloths operate using resource defense polygyny. However, they cannot guard their territories well enough to completely prevent female promiscuity. Even when the dominant male was near, another neighboring male closely interacted with the dominant male's female, indicating that promiscuity is practiced by the female Hoffmann's sloths. The limited mobility of Hoffmann's sloths has forced dominant males to sacrifice strict polygyny for the benefit of their own reproductive fitness.