063

USING SOCIAL NETWORK METRICS TO EXPLORE THE ECOLOGICAL DETERMINANTS OF GROUPING PATTERNS IN SPIDER MONKEYS (ATELES SPP.)

G. Ramos-Fernandez

Centro Interdisciplinario de Investigación para el Desarrollo Integral Regional, Unidad Oaxaca, Instituto Politécnico Nacional, Oaxaca, México

Presenter's Email: ramosfer@alumni.upenn.edu

In spider monkeys, male gregariousness has been hypothesized to arise from the need to defend the group's home range, while female gregariousness would result mainly by coincidence at common feeding areas. Here I test this hypothesis using space use, diet and social network data from a group of spider monkeys (*Ateles geoffroyi*) in the Yucatan peninsula, Mexico (8 years, average 594 hrs of observation per year). Weighted association networks of adult individuals (6-13 females and 1-6 males in different years) were generated from the number of instantaneous scan samples in which dyads were observed in the same subgroup. I tested two predictions derived from the above hypothesis: 1) In years when the group used a larger area, males, but not females, should increase their association tendencies, but the network should appear less dense. This prediction was not supported by the data: strength and affinity (two measures of association tendencies) as well as average reach (a measure of network density) of both sexes increased with the size of the group's core area. 2) As yearly foraging on scarce but large fruit trees (*Ficus* spp.) increases, females, but not males, should increase their association tendencies and the network should appear denser. This prediction was borne out by data: the females' clustering coefficient (another measure of network density) increased with the proportion of *Ficus* spp. in the group's diet, while the males' reach and affinity decreased. Social network metrics are a promising way to explore the ecological influences on grouping. Funded by CONACYT-J51278.

Keywords: fission-fusion, foraging, social networks, space use