

VARIATION IN INTERINDIVIDUAL SPACING AND BEHAVIORAL CORRELATES IN A GROUP OF JAPANESE MACAQUES

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We measured interindividual spacing in a group of wild Japanese macaques (*Macaca fuscata*) to assess quantitatively the spatial structure of a social group and the related behavioral mechanism. The horizontal distance between each two focal females was measured using a simultaneous focal animal sampling method, with two observers using GPS during three seasons. The interindividual distance differed between seasons: short in autumn, intermediate in winter, and long in summer. Measurements taken in summer revealed extremely wide spacing, suggesting sub-grouping. However, when two individuals were widely separated, their spacing lessened after a short period of time. This finding confirms that these macaques cohere with group members. This cohesive tendency was strong in autumn, intermediate in winter, and weak in summer, consistent with the seasonal variation in spacing. Interindividual distances also varied with activities during each season: short during grooming and resting, intermediate during foraging, and long when the group was moving. Factors possibly related to interindividual spacing, i.e., the activity budget, accordance of movement between two individuals, and proximity during feeding, differed by season and were consistent with the seasonal differences in spacing. Our results suggest that Japanese macaques cohere and disperse repeatedly within a short period of time due to changes in their activities, and that the degree of their coherence vary seasonally due to the seasonal variation of their activities.

Keywords: cohesion, dispersion, social structure