

TRAVEL ROUTES TO FEEDING SITES OF FEMALE JAPANESE MACAQUES IN RELATION TO SOCIAL RANK AND FOOD DISTRIBUTION

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Individual travel decisions may vary across social rank and food distribution in a group of primates. Depending on rank and food distribution, an animal may have to decide whether to follow another member of the group to feed together or to avoid other individuals to reduce scramble/contest competition. We investigated and compared the traveling pattern to feeding sites of Japanese macaque females of different ranks in relation to food distribution. We followed simultaneously two focal animals in a well-habituated troop of Japanese macaques on Yakushima Island, Japan. Six females divided into three rank classes (high, middle, and low) were chosen as the targets for this study. We recorded 1) the locations of focal animals and feeding sites by GPS, 2) their feeding behaviors, 3) the food items they fed on. We calculated the linear distance between the two focal animals during the focal follows, and also compared their traveling patterns (distance, speed, and directness) to feeding sites. We found that 1) subordinate females tended to travel far away (sub-grouping) from dominant females when food distribution was scattered, 2) both dominant and subordinate females showed long distance, high speed, and direct travel to feeding sites even when females traveled in sub-groups. These results suggest that 1) subordinate females avoid scramble/contest competition by keeping their distance from dominant females, and 2) both dominant and subordinate females could navigate efficiently when traveling towards feeding sites based on mental maps.

Keywords: feeding competition, mental maps, simultaneous follows, GPS