

ESTIMATING THE DENSITY OF SOLITARY MALE JAPANESE MACAQUES IN YAKUSHIMA

Y. Otani, G. Hanya

Primate Research Institute, Kyoto University, Inuyama, Aichi, Japan

Presenter's Email: otani@pri.kyoto-u.ac.jp

We estimated the density of solitary male *Macaca fuscata* in order to reveal more about this little known aspect of the life history of this species. The Japanese macaque has a female-bonded society, in which Migration is an important part of the life cycle because it contributes to gene flow between groups, sometimes over great distances. In the transition period between groups, males are solitary. Despite the importance of male migration, little is known about solitary males because the social group has been the main focus of research on Japanese macaques. In this study, we estimated the density of solitary males. We conducted point censuses in highland (700-1300m ASL) and lowland (0-300m ASL) areas in Yakushima. We divided study sites into 500m*500m grid squares and set a fixed observation point in each grid square. Total investigation time was 11,653h (summer, highland; 10,061h, autumn, highland; 331h, summer, lowland; 1,261h). The absolute density of solitary males was estimated as 2.64 individuals/km² (summer, highland). This was 45.5% of the group male density (individual density; 23.7/km², SSR; 0.775). The relative density of solitary males was higher in summer than in autumn. In summer, no correlation was found between the group density and detection frequency of solitary males. These facts indicate that in summer (non-mating season), solitary males move more independently from groups, while in autumn (mating season), they follow groups. They might be able to avoid the costs of feeding competition with group members in the summer and gain mating opportunities in the autumn.

Keywords: macaca fuscata, solitary, male, lifehistory