

Habitat use by a primate community in a lowland dipterocarp forest in Danum Valley, Borneo

ABSTRACT

Knowledge of niche partitioning with respect to habitat is indispensable to understand the mechanism of coexistence of multiple species. Among primates, however, data are still deficient because repeated survey for a sufficiently long time, covering seasonal changes over a large area, is the only way to clarify habitat segregation within a seasonally fluctuating environment. Southeast Asia is particularly interesting because of the supra-annual, highly unpredictable seasonality in fruiting known as mast fruiting. We conducted repeated route census, habitat monitoring, and group tracking for 25 months in two study sites (ca. 10 km apart) in the largely primary lowland dipterocarp forest of the Danum Valley Conservation Area, eastern Sabah, northern Borneo, Malaysia. The five species of diurnal primates (Bornean orangutan *Pongo pygmaeus*, Müller's gibbon *Hylobates muelleri*, red leaf monkey *Presbytis rubicunda*, long-tailed macaque *Macaca fascicularis*, and southern pig-tailed macaque *M. nemestrina*) did not show horizontal spatial segregation. Red leaf monkeys showed preferences for places with short tree height, but their distribution was not confined to such places. In response to the fruiting peak observed once during the study period, orangutans increased their numbers simultaneously in the two study sites. The average tree height used by the five species was different, but their range overlapped substantially. Compared with other primate communities, the lack of horizontal spatial segregation and the suggested long-distance movement of orangutans seem to be unique characteristics in Borneo, although the use of different forest strata is a widespread phenomenon among primate communities throughout the world.