

## THE SOCIAL SYSTEM OF PROBOSCIS MONKEYS: INVESTIGATIONS OF INTER- AND INTRA-GROUP RELATIONSHIPS

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To understand the multilevel society of proboscis monkeys, we investigated their inter- and intra-group relationships, focusing on temporal changes in the local density of sleeping sites of monkey groups and inter-individual interactions (agonistic and grooming behaviors). We conducted our study in a riverine forest along Menanggal River in Malaysia from May 2005 to May 2006. The sleeping site locations of a focal one-male group (BE-Group) were recorded and the locations of other one-male and all-male groups within 500 m of BE-Group were verified (total 235 nights). Using focal animal sampling, we also observed all adult monkeys in BE-Group (1 adult male, 6 adult females; total 3507 h). In addition, we recorded environmental factors (food availability, the water level of the river, and the river width). Our results concerning sleeping site locations of all groups examined suggest that the conditional local density surrounding BE-Group can be predicted by spatial heterogeneity along the river and by temporal changes in food availability, i.e., the local density of monkey groups might increase due to better sleeping sites in terms of predator attacks and clumped food sources. The attacker-receiver matrix based on the 49 intra-group cases of aggression produced a non-significant linearity among the adults in BE-Group. Grooming was mostly occurred between two adult females and between adult females and their juveniles or infants. Females groomed all other females of the group with roughly equal frequency. This study was partly financed by the JSPS core-to-core program HOPE, and Grant-in-Aid for Young Scientists (B) (#21770261).

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