
Factors influencing female dispersal patterns in Western lowland gorillas

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Abstract

Among social species, the dynamics of social units is partly driven by dispersal of individuals between groups. In species structured in harems where females disperse, their dispersal patterns condition the reproductive success of populations. Our study aims at understanding the factors underlying dispersal decisions by females. Those decisions are highly conditioned by mate choice strategies and social environment. In Western lowland gorilla, breeding groups are composed of a unique reproductive male (silverback) and several adult females and their offspring. After leaving their group, females join another breeding group or associate with a solitary silverback to form a new breeding group. We investigated the influence of the size of breeding groups, the number of females within groups, the age structure of groups, the occurrence of skin diseases (such as yaws) affecting individuals (especially silverbacks), and the inter group encounter rates in the decision of females to leave or join a social unit. We expect that female emigration rates will be higher in "senescent" groups; conversely immigration rates will be higher in newly-formed groups. We expect that female dispersal will be higher in dense populations where inter groups encounter rate is higher too. We used long term monitoring data from two populations of *Gorilla gorilla gorilla* in the Republic of Congo within the same forest area but having different population size (about 150 and 400 individuals, respectively).

Keywords: social species, female dispersal, decision making, gorilla gorilla gorilla, long term monitoring

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