Instability Rules Social Groups in the Communal Breeder Rodent *Octodon degus*

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Abstract

It has been hypothesized that animal groups in socially cohesive species are inherently unstable, ultimately the result of constraints to independent breeding, and proximately the product of adult fidelity and offspring philopatry. Other processes, including emigration of individuals that join pre-existing groups would be less important. We examined the persistence and variation in the composition of members of social groups in *Octodon degus*, a communal breeding rodent in which limitations to independent breeding are less obvious. This analysis was conducted during subsequent years, as well as during different seasons within years. Similar to social species in which constraints to independent breeding influence sociality, groups in degus were unstable in that they were short lived and ruled by an extensive turnover of group members across years. A relatively high turnover of group members was also recorded within years. Variation in the composition of groups was caused mostly by disappearance (presumably mortality) and immigration of adult members. Adult fidelity and offspring philopatry and dispersal played secondary roles in affecting the composition of social groups between and within years. Future studies should reexamine the importance of habitat limitations and its proximate determinant, natal philopatry, in driving the stability of social groups.