

Social housing and welfare? Ask the voles

Bachelor Thesis

In this project we aim to investigate female bank voles' responses to different types of social enrichment. Ensuring adequate captive conditions is crucial to animal welfare as well as the collection of reliable behavioural data. Housing should incorporate as many aspects of a species' natural features as possible, including social conditions. For many rodents, physiological and behavioural studies indicate that social isolation is detrimental, and that the company of others can be enriching and beneficial. When social systems are extremely flexible, however, informed decisions on social housing become more difficult.

In the wild, female bank voles (*Myodes glareolus*) have mutually exclusive home ranges during the breeding season, whereas they are less territorial during winter (e.g. Bujalska 1970, 1990), when communal living is expected to be beneficial due to enhanced thermoregulation (e.g. Vickery & Millar 1984). Also, females relying on sparse and slowly-renewed food resources are expected to defend territories covering important food patches (e.g. Ostfeld 1990), while a clumped and highly predictable food source can lead to increased sociality, which was found to have a positive effect on the population growth rate through higher success in producing weaned offspring (e.g. Johnsen et al. 2019; Rémy et al. 2013).

Voles will be housed in pairs, in paired but separated cages, or in isolation (the current standard). Voles' stress levels will be closely monitored through non-invasive assessment of stress hormone metabolites and body mass. Results will have a direct impact on current housing conditions and will help inform future decision-making.



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