

Abstract

The black rat (*Rattus rattus*) has been one of the most widespread and economically important rodent pests for centuries. Yet, it is a neglected species in research, so we still do not know much about its ecology and behaviour. The aim of this thesis is to characterize the exploratory behavior of the black rat in a three-dimensional environment. The results of this thesis showed that the black rat, when presented with a choice between vertical and horizontal space, prefers to stay in vertical space at one of the upper height levels. We are thus inclined to think of the rat as a semi-arboreal species with a strong willingness to climb. Also, four exploratory strategies were identified in this work, some of which can be compared to fast and slow exploratory strategies. This work also proposed and tested an experimental design that is suitable for testing the exploration of a vertically active species such as the black rat.

Keywords: the black rat, three-dimensional environment, preferences, exploration, exploratory strategies