

## OBSERVATIONS ON THE NESTING HABITS OF APODEMUS SYLVATICUS IN WOODLANDS

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Communal nesting in small mammals presents advantages but also disadvantages and plays an important role in the dynamics of disease transmission. It is usually considered, and sometimes proven, that animals with high contact rates, e.g. gregarious species, are exposed to an increased risk of contracting diseases. However, in the yellow-necked mouse, *Apodemus flavicollis*, solitary mice are more heavily infested with parasitic Acarina than gregarious mice, a result which is inconsistent with the "high contact rate = increased risk of contracting diseases" theory. This makes comparisons with the widespread and abundant woodmouse, *Apodemus sylvaticus*, most desirable. The nesting behaviour of *Apodemus* mice was therefore investigated using arboreal nest-boxes.

Several hundred nest boxes were erected at or above 1.5 m on trees in woodlands in England and Wales. These were inspected either monthly by the author, or at least twice a year by volunteer surveyors involved in the National Dormouse Monitoring Programme. When found in nest-boxes, *Apodemus* mice were individually marked and had a DNA sample collected. Mass, sex, breeding condition, visible pathologies and parasites were systematically recorded for each individual. Where feasible, faecal samples were also collected for further parasitic diagnosis. Contrary to this rigorous protocol, records made by volunteer surveyors contain incomplete data.

Woodmice were found to nest alone or in groups of up to eight individuals. Gregarious mice formed single-sex groups as well as mixed groups. None of the females was found to be nesting alone. Although woodmice were fully conscious when returned to their nest-box, some members of several groups of *A. sylvaticus* were later recaptured in nest-boxes. This contrasts sharply with yellow-necked mice. Clearly woodmice are much less sensitive to disturbances than yellow-necked mice. In common with yellow-necked mice, woodmice use several nesting places. However, in sharp contrast to the monogamous yellow-necked mouse, only one couple was observed in woodmice. Nest-box dwelling woodmice are more gregarious than yellow-necked mice, the occurrence of lone nesting individuals being proportionally less frequent, and larger groups being proportionally more frequent. The difference in proportional frequency of occurrence of lone individuals and groups of various sizes between the two species is very highly significant. Where the various nesting categories are compared, the highest proportion of individuals of *A. sylvaticus* was found to be living in groups of four mice. In both *Apodemus* species, the larger the groups, the more likely they are to comprise immature individuals. Winter merging of previously distinct groups occurs in woodmice. This contrasts sharply with yellow-necked mice, where familial clans do not mix outside the mating season.

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