

BEHAVIORAL MECHANISMS OF PRECOPULATORY ISOLATION IN TWO SYMPATRIC SPECIES *MUS MUSCULUS* AND *MUS SPICILEGUS*

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Mus musculus superspecies complex includes two divergent groups: wildliving species *M. spicilegus*, *M. macedonicus*, *M. spretus* and commensal taxa *M. musculus*, *M. domesticus*, *M. castaneus*. *M. spicilegus* is sympatric with *M. musculus* over all its range. These species hybridize in the laboratory with little reduction of fertility, but they are genetically isolated in nature. We investigated the role of sexual and other patterns of behaviour in reproductive isolation of these sympatric species. The subjects were 26 male and 25 female wild *M. musculus*, 25 males and 21 females from population of Trans-Caucasus (*M. musculus* with admixture of *M. domesticus* genes), 17 male and 16 female *M. spicilegus*. Behavioral tests (90 min) were conducted in chambers (50x25x30 cm). Behaviour of the subjects was recorded by means of video camera. Data analysis was made by means of Observer Video-Pro, Version 4.1. Elements of sexual, agonistic and amicable behaviour were recorded. Copulatory behaviour of *M. musculus* and *M. spicilegus* consists of a series of mounts without vaginal penetration mounts and with intromission and ejaculation. Some qualitative differences in behavioral patterns of *M. spicilegus* and *M. musculus* including copulatory behaviour were not found, while the frequency and duration of some elements of agonistic and amicable behaviour differed significantly. Usually *M. spicilegus* male made from 6 to 71 mounts with intromissions which terminated by ejaculation. *M. spicilegus* male ejaculated from 2 to 9 times (mean: 6.4). Males of commensal taxa made from 4 to 115 mounts with intromission which terminated by one ejaculation. Mean ratio of the number of mounts with intromission per one ejaculation in *M. spicilegus* male was 6.078, in males of commensal forms 45.25 ($P < 0.05$). Number of thrust per intromission in males of commensal forms varied from 3 to 50. Ejaculations in *M. spicilegus* male occurred significantly more often than in males of commensal mice. The pattern of sexual behaviour of *M. spicilegus* male was more conservative than in males of commensal forms. Heterospecific encounters between *M. musculus* male and *M. spicilegus* female were joined to high level of aggressive behaviour. These results indicate that not only patterns of sexual behaviour are important for reproductive isolation, but also all types of behavioural interactions preceding the copulation. In general, the behaviour of commensal forms was more variable than in *M. spicilegus*. Different stereotypes of mating behaviour during the encounter of potential sexual partners can disturb communicative process and prevent successive copulation.

This study was supported by Russian Foundation of Basic Research, grant 04-04-48412.