Ecology, physiology and behaviour – 3

Chromosomal diversity and evolution of *Nannospalax*, Palmer 1903 (Mammalia: Rodentia) in Anatolia

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Although speciation is difficult to understand when there is no obvious geographic isolation between populations, there are cases where isolation does not occur in the course of of natural selection. Speciation and the demonstration of the separation of existing species, especially in groups that are not understtod as sibling species, endless debates remain and the issue is difficult to study until to find a suitable explanation. However, if studied, they could be ideal model organisms for collecting information about evolutionary processes. This is the case for *Nannospalax* forms in Anatolia. Currently, 24 cytotypes have been defined in Anatolia. Comosome number differs from 36 to 60. Morphologically they are almost impossible to separate from each other. Another important point is that chromosome number can be used as a taxonomic character to separate species and populations. The differentiation of chromosomes brings along genetic differentiation and speciation. Possible reasons for the rapid fixation of the chromosome number in this species are: they live solitary, have limited movement due to living in tunnels they dig underground, show adaptive expansion due to the absence of competitors in the area they live in, and the effect of the small population effect can be seen quickly due to limited sexual selection. When all these factors are evaluated together, the resulting chromosome number differences revealed that the cytotypes of mole rats were different in studies carried out with any method, speciation was faster and cytotypes should be evaluated as separate species. However, the still unanswered question is: What caused the chromosomal evolution that led to differentiation?