

Karyological comparison of populations of the *Spalax leucodon* Nordmann, 1840 superspecies (Rodentia: Spalacidae) in Turkey

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Abstract. One hundred and seventy-seven specimens of *Spalax leucodon* Nordmann, 1840 from 41 localities in Turkey were examined for their karyological features. Nine karyotypic forms were recorded. $2n=50$, $NF=72$, $NFa=68$ was recorded from Bayburt, Erzincan, Giresun, and Rize, $2n=54$, $NF=74$, $NFa=70$ from Kırıkkale, $2n=52$, $NF=70$, $NFa=66$ from Bolu, and $2n=56$, $NF=72$, $NFa=68$ and $2n=60$, $NF=78$, $NFa=74$ from Isparta. Based on an extensive literature review, it was shown that the karyotypic form $2n=60$ has the widest distribution in the subspecies *cilicicus*, while the form $2n=50$ has the widest distribution in the subspecies *nehringi*. The subspecies *nehringi* was also found in the area of Kırıkkale in Inner Anatolia for the first time. A map of all the karyotypes is given, based on literature data and our own results.

Key words. *Spalax leucodon*, karyology, distribution, evolution, Turkey, Middle East.

Introduction

The representatives of the subterranean Spalacidae originated from a murid-cricetoid stock in Turkey or its vicinity (SAVIC & NEVO 1990). The taxonomy of the genus *Spalax* is rather complicated. According to morphological studies, there are two species of *Spalax* in Turkey: *Spalax leucodon* (Nordmann, 1840) and *Spalax ehrenbergi* Nehring, 1898. *S. leucodon* is represented by five subspecies in Turkey (*S. l. nehringi* Satunin, 1898; *S. l. armeniacus* Mehely, 1909; *S. l. cilicicus* Mehely, 1909; *S. l. anatolicus* Mehely, 1909; *S. l. turcicus* Mehely, 1909) (MURSALOĞLU 1979, KIVANÇ 1988), but their distribution areas are not clear.

Karyological studies showed that karyotypic variation is high between sub-populations of *S. leucodon* in Turkey. They have revealed eleven karyological forms of *S. leucodon* in Turkey ($2n=36, 38, 40, 48, 50, 52, 54, 56, 58, 60, 62$), and the fundamental number of chromosome arms (NF) for *S. leucodon* varied from 68 to 84 (NEVO et al. 1995, KANKILIÇ et al. 2005, 2006, SÖZEN et al. 2006b). When the number of diploid chromosomes ($2n$) and the number of fundamental chromosome arms (NF) are taken into consideration, the number of different chromosome forms reaches 21. The taxonomic status and distribution of these karyotypic forms determined in Turkey are problematic as the chromosome number changes between closely-placed localities. On the other hand, each karyotypic form of *S. ehrenbergi* in Israel was described as a different species by NEVO et al. (2001).

NEVO et al. (1994) and KANKILIÇ et al. (2005) determined an increasing trend in heterozygosity and the number of diploid chromosomes ($2n$) in *S. leucodon* in Turkey towards the