

A karyological study on subterranean mole rats of the *Spalax leucodon* Nordmann, 1840 (Mammalia: Rodentia) superspecies in northwestern Turkey

by Ferhat Matur and Mustafa Sözen

Abstract. The karyotypes of 35 specimens of the subterranean mole rat of the superspecies *Spalax leucodon* Nordman, 1840, from 11 localities in the Bilecik area in north-western Turkey were analysed. Two different karyotypes were identified and both show a distinct geographic distribution: The karyotype $2n=52$ and $NF=70$ is confined to the eastern side of the Sakarya River, whereas $2n=60$ and $NF=78$ is found only on the western side of the river. The Sakarya River thus serves as a barrier and separates both forms in this area.

Kurzfassung. In der Umgebung von Bilecik in der Nordwesttürkei wurden die Karyotypen von insgesamt 35 Blindmäusen der Superspezies *Spalax leucodon* Nordman, 1840, von 11 Stellen analysiert. Es wurden zwei unterschiedliche Karyotypen gefunden, die eine klar umrissene geographische Verbreitung haben. Der Karyotyp $2n=52$ und $NF=70$ ist auf die östliche Seite des Sakarya-Flusses beschränkt, während der Karyotyp $2n=60$ und $NF=78$ nur auf der westlichen Flussseite vorkommt. Der Sakarya-Fluss stellt damit eine Barriere dar, die beide Formen im Untersuchungsgebiet trennt.

Key words. *Spalax leucodon*, karyology, genetic isolation, superspecies, Turkey, Middle East.

Introduction

The subterranean Spalacidae probably originated from a muroid cricetoid stock in Anatolia or its vicinity in Upper Oligocene times and adaptively radiated underground in the Balkans, steppic Russia, and the Middle East, extending into North Africa (SAVIC & NEVO 1990). They are now distributed throughout south-eastern Europe, Turkey, Caucasia, Transcaucasia, Ukraine, Armenia, Syria, Palestine, Iraq, Israel/Palestine, Jordan and north-eastern Africa (CORBERT 1978, SAVIC & NEVO 1990). To date, more than 50 chromosomal forms of *Spalax* have been described in the literature. From Turkey alone, about 30 chromosomal forms have been described, and Turkey is thus the karyologically most diverse area of this superspecies (NEVO et al. 1994, SÖZEN et al. 1999, 2000a, b, COŞKUN 2003, SÖZEN 2004).

According to the traditional taxonomy based on morphological characters, two species of mole rats (*Spalax leucodon* and *S. ehrenbergi*) occur in Turkey (MURSALOĞLU 1979, KIVANÇ 1988). On the other hand, COŞKUN (2004) recently described *Nannospalax munzuri* as a new species and also accepted *N. tumelicus* (Coşkun, 1996) as a valid species based primarily on karyological and some morphological peculiarities. A taxonomic evaluation of the Spalacidae in Turkey based only on morphology is unrealistic (NEVO et al. 1994) because so far 20 karyological forms or good biological species ($2n = 36, 38, 40, 48, 50E,$