

CHROMOSOME STUDY OF THREE SPECIES OF DORMICE FROM BULGARIA

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ABSTRACT – The karyotypes of three species of dormice were studied. The fat dormouse *Myoxus glis* is reported with $2n=62$. The forest dormouse *Dryomys nitedula* has $2n=48$ and the hazel dormouse *Muscardinus avellanarius* is reported with $2n=46$. A secondary constriction is well visible in all three species.

Key words: Karyotype, Chromosomes, Dormouse, Bulgaria.

RIASSUNTO – *Studio cromosomico di tre specie di Mioxidi in Bulgaria* – Sono stati studiati i cariotipi di tre specie di mioxidi. *M.glis* è caratterizzato da $2n=62$, *D.nitedula* da $2n=48$ e *M.avellanarius* da $2n=46$. Una costrizione secondaria e ben visibile in tutte e tre le specie.

Parole chiave: Cariotipo, Cromosomi, Myoxidae, Bulgaria.

INTRODUCTION

In Bulgaria the family Myoxidae family is not very well studied. There is only one published paper in which the chromosome number is mentioned: Belcheva et al. (1988) report *M.avellanarius* $2n=46$ and in *M.glis* $2n=62$. The present work aims to characterise in more detail the karyotypes of the three species.

MATERIAL

In the present study 12 specimens of the fat dormouse (*M.glis*) were used. Four of them came from Rila mountain (the beech forest above the Rila monastery); 3 from the West Rhodope mountains; 3 from the middle part of the Balkan mountain (in the vicinity of Teteven) and 2 from Vitosha mountain, near Sofia. Nine specimens of the forest dormouse *Dryomys nitedula* were studied (3 from Vitosha, 2 from Rila, 3 from the West Rhodope mountains and 1 from the Tracia valley, near Yambol). The hazel dormouse (*Muscardinus avellanarius*) was karyologically studied from two localities - the West Rhodope mountains and Vitosha mountain. All preparations were made from colchicin-blocked metaphases. The chromosomes are arranged according to their centromere position into corresponding groups (Lyapunova et al., 1974, Savic & Soldatovic, 1972).

RESULTS AND DISCUSSION

The karyotype of the fat dormouse is characterised by $2n=62$. Nearly all of the chromosomes are biarmed and are meta-, or submeta-centric (Fig. 1). Only one acrocentric pair is observed. It is too small and could also be accepted as submetacentric. A secondary constriction is clearly visible in one of the middle sized submetacentric pairs. Its number is between 15 and 18 and depends on the

spiralisation. The X-chromosome is medium-sized and its morphology is like those from Yugoslavia and Czechoslovakia (Dulić et al., 1971). The Y-chromosome is the smallest one and it is difficult to define its morphology.

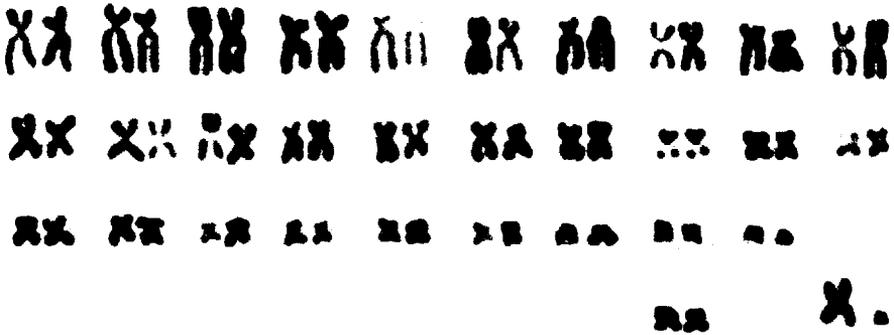


Fig. 1 — Karyotype of *M. glis* from Bulgaria.

The diploid number of the forest dormouse *D. nitedula* is $2n=48$. The same number is reported by Raiku (1972) from Romania and by Dzujev, Tembotova (1980) from Caucasus and Zima, Kral (1984) from Czechoslovakia and Filippucci et al. (1985) from Italy (Fig. 2). In higher degrees of spiralisation three of them appear acrocentric. The X-chromosome is a big metacentric. The Y-chromosome is the smallest one, and it is metacentric. A secondary constriction is also clearly visible. The described karyotype is like that from Czechoslovakia. $Nfa=92$.

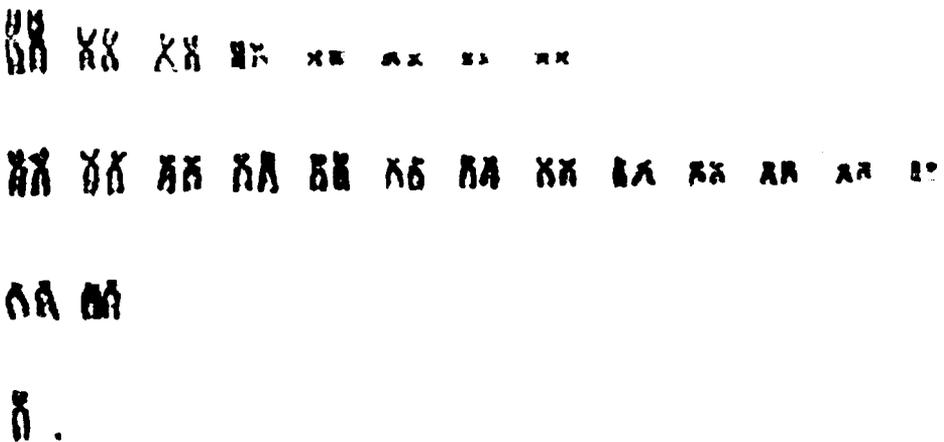


Fig. 2 — Karyotype of *D. nitedula* from Bulgaria.

The karyotype of the hazel dormouse *M. avellanarius* is presented in Fig. 3; $2n=46$ ($NFa=88$). The same number is reported from Yugoslavia and Czechoslovakia, while from Switzerland it is reported that $2n=49$ (Renaud, 1938). According to their centromere position the chromosomes are arranged in 4 groups - 6 pairs of

metacentrics, 12 pairs of submetacentrics, 3 pairs of subtelocentrics and one pair acrocentrics. The X-chromosome is a big metacentric, while the Y-chromosome is the smallest one in the karyotype and is dot-like. A secondary constriction is clearly visible in the second group of chromosomes.

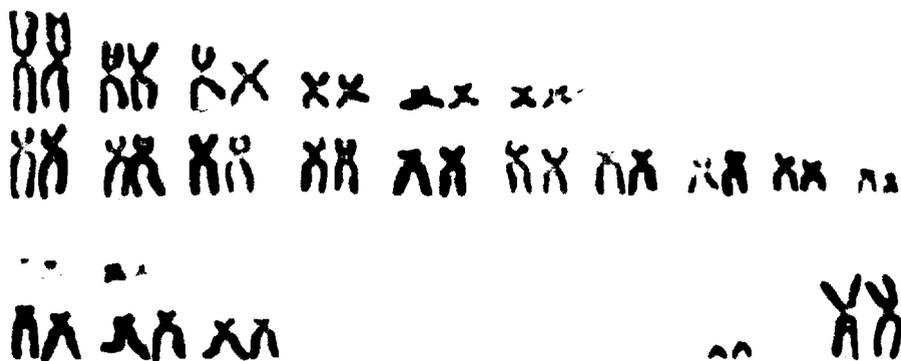


Fig. 3 – Karyotype of *M. avellanarius* from Bulgaria.

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