

SHORT COMMUNICATION

THE KARYOTYPE OF *Akodon lindberghi* HERSHKOVITZ, 1990 (CRICETIDAE, RODENTIA)

Marta Svartman and Eunice Judith Cardoso de Almeida

ABSTRACT

The karyotype of *Akodon lindberghi*, recently described by Hershkovitz (*Fieldiana*, 57: 1-35, 1990), is presented. It shows a diploid number of 42 chromosomes and a fundamental number equal to 42. The new complement is compared to those of other Brazilian species of *Akodon*.

INTRODUCTION

At least seven species of the genus *Akodon* from different states of Brazil have been karyotyped and the diploid number ranges from $2n=14$ in *Akodon arviculoides* (now considered *A. cursor*) to $2n=52$ in *Akodon (Thaptomys) nigrita nigrita* (Kasahara and Yonenaga-Yassuda, 1984). Several kinds of polymorphisms due to different chromosomal rearrangements were found in those studies.

In *Akodon arviculoides* ($2n=14, 15$ and 16) from the states of São Paulo, Rio de Janeiro and Pernambuco, chromosomal inversions in three autosomal pairs and a complex rearrangement in the first autosomal pair have been found (Yonenaga-Yassuda, 1979; Maia and Langguth, 1981). *Akodon* sp. and *Akodon* aff. *arviculoides* ($2n=23, 24, 25, 26, 25/26, 23/24$; now recognized as *A. montensis*) captured in São Paulo, Rio Grande do Sul and Santa Catarina showed variation in the diploid number due to the presence of supernumerary chromosomes, Y chromosome elimination in somatic cells and non-disjunction of the Y chromosome. Morphological heteromorphism of the X chromosome was also detected in these animals (Yonenaga *et al.*, 1975; Kasahara and

Yonenaga-Yassuda, 1982; Castro, 1989; Sbalqueiro, 1989). *Akodon serrensis* from Rio Grande do Sul and Paraná showed different diploid numbers ($2n=43, 44$ and 45) due to a non-disjunction of the X chromosome (Sbalqueiro *et al.*, 1985; Sbalqueiro, 1989). *Akodon azarae* from the state of Rio Grande do Sul showed a diploid number of 38 chromosomes and two morphological types of Y (Sbalqueiro *et al.*, 1982; Sbalqueiro, 1989). In *Akodon reinhardti* collected in the state of Goiás, a mechanism of centric fusion/fission, responsible for a variation in the diploid number ($2n=37$ and 38), was detected (Yonenaga-Yassuda *et al.*, 1987). *Akodon (Thaptomys) nigrita nigrita* from São Paulo and Rio Grande do Sul showed a karyotype with 52 chromosomes and no variability was found (Yonenaga, 1975; Castro, 1989), which is also true for *Akodon* sp. from Paraná, which presented 46 chromosomes (Sbalqueiro, 1989).

MATERIAL AND METHODS

One male and one female of *Akodon lindberghi* captured in Parque Nacional de Brasília, Distrito Federal, Brazil ($15^{\circ}35'S, 47^{\circ}55'W$) were karyotyped. These specimens are deposited in the Field Museum of Natural History, Chicago, under the numbers 128295 and 128296 (Hershkovitz, 1990).

The chromosomal preparations were obtained from bone marrow according to the technique described by Ford and Hamerton (1956), with modifications.

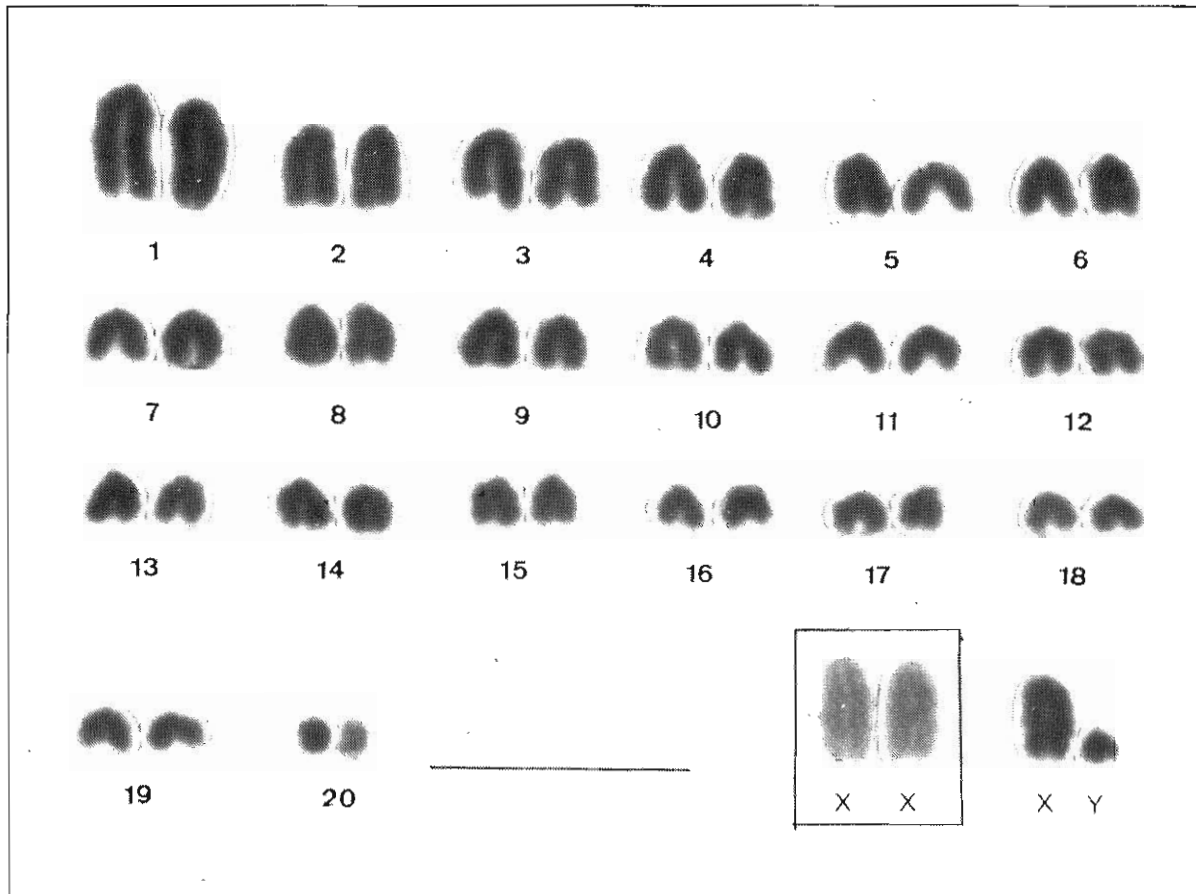


Figure 1 - Karyotype of a male *Akodon lindberghi* ($2n=42$; $FN=42$). In the inset, the sex chromosomes of a female. The bar represents 10 μm .

RESULTS

Both specimens showed a diploid number of 42 chromosomes and a fundamental number of 42 in a total of 115 cells analyzed. The autosomal constitution of the karyotype was: 19 pairs of acrocentric chromosomes with variation in length and one pair of small metacentrics. The X chromosome was a medium-sized acrocentric and the Y a small acrocentric (Figure 1).

DISCUSSION

The diploid number of 42 chromosomes is new to Brazilian representatives of the genus *Akodon*. Despite a failure to obtain banding patterns, it was possible to make some comparisons with the karyotypes of the other *Akodon* species from Brazil. We found a small metacentric pair, typical of the genus. The X chromosome, which is probably a medium-sized acrocentric in our animals, has a similar morphology in *A. arviculoides*, *A. sp.* and *A. (Thaptomys) nigrita nigrita*.

A. reinhardti has a karyotype composed only of acrocentric elements, with the exception of one metacentric pair; nevertheless, this pair is larger than the marker pair typical of *Akodon* (Yonenaga-Yassuda *et al.*,

1987). The sexual pair of *A. reinhardti* is also different from that of *A. lindberghi*: the X is a large submetacentric and the Y a medium-sized acrocentric.

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RESUMO

Neste trabalho é descrito o cariótipo de *Akodon lindberghi* Hershkovitz (*Fieldiana*, 57: 1-35, 1990) ($2n=42$; $NF=42$), o qual é comparado aos complementos de outras espécies brasileiras de *Akodon*.

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