



Cytogenetic analysis in the spermatogenesis of *Triatoma melanosoma* (Reduviidae; Heteroptera)

V.B. Bardella, M.T.V. Azeredo-Oliveira and E. Tartarotti

Departamento de Biologia, Instituto de Biociências, Letras e Ciências Exatas, Universidade Estadual Paulista “Júlio de Mesquita Filho”, IBILCE/UNESP, São José do Rio Preto, SP, Brasil

Corresponding author: M.T.V. Azeredo-Oliveira
E-mail: tercilia@ibilce.unesp.br

Genet. Mol. Res. 7 (2): 326-335 (2008)
Received October 30, 2007
Accepted January 10, 2008
Published April 15, 2008

ABSTRACT. Triatomines are of great concern in public health because they are vectors of Chagas' disease. This study presents an analysis of the species *Triatoma melanosoma*. The cytogenetic characteristics of triatomines include holocentric chromosomes, post-reductional meiosis in the sex chromosomes and nucleolar fragmentation in the meiotic cycle. The methodology utilized consisted of the techniques of lacto-acetic orcein staining and silver ion impregnation. The organs analyzed were adult testicles. The results enabled to classify the chromosomes by number and size, being three large, eight medium and one small heterochromosome. The three largest chromosomes and the heterochromosomes showed heteropyknotic chromatin in meiosis. The heterochromosomes in 8.05% of the cells in metaphase I behaved as pseudobivalents, contrasting with 91.95% of the cells with individualized sex chromosomes, confirming the achiasmatic nature of these chromosomes. However, the pseudobivalents occurred prominently in metaphase II (78.38%), this fact probably is related to the post-reductional nature of the sex chromosomes. The nucleolus in *T. melanosoma* persisted until the diplotene phase after which it began to fragment. Nucleolar corpuscles were observed in metaphases I and II and during anaphases I and II, these characteristics being related to the phenomenon of nucleolar

persistence. In the initial spermatids, peripheral silver ion impregnation occurred, which could be analogous to the pre-nucleolar corpuscles observed after fragmentation. Thus, this study extends our knowledge of the characteristics of triatomines, in particular, heteropyknotic degree, kinetic activity, formation of sex chromosome achiasmatic pseudobivalency, confirmation of the fragmentation phenomenon, and post-meiotic nucleolar reactivation.

Key words: Triatomines; Cytogenetics; Meiosis; Nucleolus; Holocentric chromosomes; Spermatogenesis