Genetics and Molecular Research

Spermatogenesis in *Nesotriatoma bruneri* (Usinger 1944) (Hemiptera, Triatominae)

Y.V. Reis[1], K.C.C. Alevi[1], F.F.F. Moreira[2] and M.T.V. Azeredo-Oliveira[1]

[1]Laboratório de Biologia Celular, Departamento de Biologia,
Instituto de Biociências, Letras e Ciências Exatas,
Universidade Estadual Paulista "Júlio de Mesquita Filho",
São José do Rio Preto, SP, Brasil
[2]Laboratório Nacional e Internacional de Referência em Taxonomia de Triatomíneos,
Instituto Oswaldo Cruz, Rio de Janeiro, RJ, Brasil

Corresponding author: K.C.C. Alevi
E-mail: kaiochaboli@hotmail.com

Genet. Mol. Res. 15 (3): gmr.15038286
Received December 16, 2015
Accepted February 11, 2016
Published August 18, 2016
DOI http://dx.doi.org/10.4238/gmr.15038286

ABSTRACT. The *Nesotriatoma* genus consists of the species *N. flavida N. bruneri* and *N. obscura*, forming the Flavida complex. Variation in the size and morphological differences intraspecific of *N. flavida* led to the description of *N. bruneri*. Two years later, the same author proposed the synonymization of *N. bruneri* with *N. flavida*. Only in 1981 the specific status *N. bruneri* was recovered by means of morphological analysis of the genitalia. However, recently by genetic analysis, it was suggested that *N. bruneri* and *N. flavida* should be again synonymized. As Chagas disease has no cure, the main way to minimize the incidence of this disease is by vector control. Thus, grouping biological data from these hematophagous insects can assist in the development of vector control programs and mainly assist in taxonomic issues of synonymization. Thus, this paper describes

spermatogenesis of *N. bruneri*. Three adult *N. bruneri* males were cytogenetically analyzed. The meiotic behavior observed for *N. bruneri* was very similar to that observed for the triatomine species with 23 chromosomes: during prophase, chromatin compaction was observed, the chromocenter composition was characterized (X_1, X_2 and Y), and the species karyotype was confirmed as 2n = 23 (20A + X_1X_2Y), as it was observed for *N. flavida*. Moreover, it was possible to observe anaphase and telophase. Thus, this study describes reproductive aspects of *N. bruneri* in order to contribute to the biological knowledge of these insects of epidemiological importance. Furthermore, this corroborates the synonymization of *N. bruneri* with *N. flavida*.

Key words: Cytogenetics; *Nesotriatoma*; Flavida complex