

Meiosis, spermatogenesis and nucleolar behavior in the seminiferous tubules of Alydidae, Coreidae and Rhopalidae (Heteroptera) species

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Genet. Mol. Res. 8 (4): 1383-1396 (2009)
Received August 12, 2009
Accepted September 21, 2009
Published November 17, 2009

ABSTRACT. We studied the karyotype, spermatogenesis and nucleolar activity at spermatogenesis in five species of Heteroptera: *Hyalymenus* sp and *Neomegalotomus pallescens*, Alydidae; *Catorhintha guttula* and *Hypselonotus fulvus*, Coreidae; and *Niesthrea sidae*, Rhopalidae. They showed a red (Alydidae) or orange (Coreidae and Rhopalidae) membrane covering the testes, which consisted of seven testicular lobes, except in *N. pallescens*, which had only five. All the species had m-chromosomes, an XO sex chromosome system and 10 (*Hyalymenus* sp, *N. pallescens*, and *N. sidae*), 16 (*H. fulvus*) or 22 (*C.*

guttula) autosomes. Similar to the other species described to date, all these species showed holocentric chromosomes, interstitial chiasmata in most autosomes, and autosomes dividing reductionally in the first meiotic division and equationally in the second, while sex chromosomes, divided equationally and reductionally in the first and second meiotic divisions, respectively. In addition, we observed that the sex chromosome is heteropycnotic at prophase and that heteropycnotic chromosomal material is found in the nuclei at spermatogenesis; variation in size, shape and location of the nucleolar material occurs during spermatogenesis, denoting a variable degree of activity in the different stages.

Key words: Hemiptera; Testicular lobes; Spermatogenesis; Spermiogenesis; Nucleolus