

The Importance of Cytogenetic in the Study of Triatomines - An Editorial Review

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Triatomines belong to the Hemiptera order and Triatominae subfamily [1]. The Triatominae subfamily is composed of 146 species hematofagous [2,3] and potential vectors of *Trypanosoma cruzi*, etiologic agent of Chagas disease.

Classic cytogenetic studies means of technique Lacto-acetic orcein and C-banding, are considered important tools taxonomic in Triatominae subfamily, as they allow for the clarification of many problems, as the reorganization of Brasiliensis subcomplex [4-6], in the description and revalidation of species [7,8] in the study of cryptic speciation [9] and differentiation of species morphologically related [10,11]. However, in 2005, molecular cytogenetic studies, using the technique of in situ hybridization (FISH) have been initiated in triatomines [12].

The probes used in FISH (45S and 28S) allow taxonomic and evolutionary studies in these vectors. Currently, of the 146 described species only 46 present studies with the FISH technique, distributed in eight genus: *Psammolestes* (1), *Dipetalogaster* (1), *Eratyrus* (1), *Panstrongylus* (3), *Mepraia* (2), *Meccus* (3), *Triatoma* (23), *Rhodnius* (12) [12-17]. Intraspecific variation was also observed with FISH in *T. infestans* and *R. ecuadoriensis* [16,17]. New studies are necessary to the understanding of evolution of these insects.

Even after the emergence of molecular cytogenetics of triatomine, classical cytogenetics is still of great taxonomic importance because they are simple techniques that allow solving big problems, as mentioned above. Thus, increasingly the cytogenetics of triatomines is an important cytotoxic and evolutionary tool directly aiding in the understanding of these insects of great importance in public health.

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