



# Differentiation between *Triatoma arthurneivai* and *Triatoma wygodzinskyi* (Hemiptera: Reduviidae: Triatominae) using cytotaxonomy

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**ABSTRACT.** Using classic morphometric techniques to examine the head and thorax of *Triatoma* specimens, researchers identified a possible taxonomic problem involving *T. arthurneivai* (Lent & Martins) and *T. wygodzinskyi* (Lent). A recent geometric morphometric study indicated that the insects captured outside the Serra do Cipó region, State of Minas Gerais, Brazil, were *T. wygodzinskyi*. The misidentification of *T. arthurneivai* as *T. wygodzinskyi* could result in several problems associated with entoepidemiological lifting, the biological characterization of the species, and phylogenetic reconstruction. For the first time, we describe the use of cytogenetic analysis as a tool for differentiation between *T. arthurneivai* and *T. wygodzinskyi*. The results indicated that both species had the same number of chromosomes  $2n = 22 (20A + XY)$ . However, analyses of spermatocytes during early

prophase indicated that it was possible to differentiate *T. arthurneivai* and *T. wygodzinskyi*, because only *T. arthurneivai* exhibited heteropycnotic blocks distributed in the chromatin. Therefore, we highlight the analysis of spermatocytes as a taxonomic tool for the characterization of *T. arthurneivai* and *T. wygodzinskyi*, and suggest that the technique can be used for entoepidemiological lifting in vector control programs. Thus, the results presented here, in conjunction with morphometric analyses, are of utmost taxonomic and epidemiological importance for the identification of *T. arthurneivai* and *T. wygodzinskyi* specimens.

**Key words:** Cytogenetics; Taxonomy; Maculata subcomplex