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TAXONOMIC STATUS OF THE *Amblyomma maculatum* GROUP

P. Lado[1], L. Beati[2] & S. Nava[3]
[1]The Ohio State University, USA; [2]Georgia Southern University, USA; [3]INTA E.E.A Rafaela-CONICET, Argentina.

The *Amblyomma maculatum* group includes Neotropical tick species with relevance for public health. In this study, the taxonomic status of tick species belonging to the *A. maculatum* group, namely *A. mcaulatum* s.s., *A. triste* and *A. tigrinum* was evaluated by analyzing their phylogenetic relationships determined by comparisons of one nuclear and four mitochondrial gene sequences. In addition, a comprehensive morphological analysis of the adult stage was also performed. Microscopic examination, identified four putative morphotypes distinguishable by disjunct geographical ranges, but very scant fixed characters. The analysis of the separated mitochondrial datasets mostly resulted in conflicting tree topologies. Nuclear gene sequences were almost identical throughout the geographical range of the two species, suggesting a very recent almost explosive radiation of the considered terminal operational taxonomic units. The analysis of concatenated molecular datasets was more informative and indicated that, although genetically very close to the *A. maculatum-triste* lineage, *A. tigrinum* was a monophyletic, separate entity. Within the *A. maculatum-triste* cluster, three main clades were supported. The two morphotypes, corresponding to the western North American and eastern North American populations, consistently grouped in a single monophyletic clade with many shared mitochondrial sequences among ticks of the two areas. Ticks from the two remaining morphotypes, south-eastern South-America and Peruvian, corresponded to two clades. Given the paucity of morphological characters, the minimal amount of genetic distance separating morphotypes, and more importantly the fact that two morphotypes are genetically indistinguishable, our data suggest that *A. maculatum* and *A. triste* should be synonymized and that morphological differences merely reflect very recent local adaptation to distinct environments in taxa that might be undergoing the first steps of speciation but have yet to complete lineage sorting. Further studies, especially cross-breeding experiments, should follow, as they may add valuable information and further support (or reject) the hypothesis of conspecificity of *A. maculatum* and *A. triste* raised in this study.

Keywords: Ixodidae, *Amblyomma maculatum* group, taxonomy.
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