

GEOGRAPHIC VARIATION IN THE COCONUT MITE, *ACERIA GUERRERONIS* KEIFER (ACARI: ERIOPHYIDAE): A GEOMETRIC MORPHOMETRIC ANALYSIS

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ABSTRACT - The coconut mite, *Aceria guerreronis* Keifer (Prostigmata: Eriophyidae), is a major pest in several coconut production areas worldwide. Information on region of origin and sources of recent introductions of this mite are important aspects to guide evaluation of biological control agents and adoption of quarantine measures. Studies on the geographic pattern of morphological variation among populations of the coconut mite from different countries and continents can provide some of the biogeographic information required. Geometric morphometric analyses allow us to quantify and visualize shape variation, eliminating the effect of size, position and orientation, within and among samples of organisms. The objective of this study was to investigate the morphological variation of the prodorsal shield, coxigenital and ventral regions of the *A. guerreronis* idiosoma throughout its distribution in America, Africa and Asia, using Relative Warp Analysis (*thin-plate splines* function) and to attempt to relate this variation to the area of geographic origin from among the studied populations. Variation in the configurations of prodorsal shield, coxigenital and ventral regions were observed. For the last two body regions, this variation was related to the origin of populations. Considerable morphometric variability was observed between American populations, which in turn were distinct from the African and Asian populations. The latter were morphologically similar. These results support previous indications that *A. guerreronis* is of American origin and that it was introduced to Asia from Africa, or from the same source as that of the African populations. Some considerations on the use of the geometric morphometric analyses in taxonomic studies of eriophyoid mites are presented.

Keywords - Acari, Eriophyoidea, Eriophyidae, morphometry, *Cocos nucifera* L., Relative Warp Analysis, Africa, America, Asia.

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