



**ULTRASTRUCTURE OF MICROPLATES OF *Brevipalpus* MITES (ACARI: TENUIPALPIDAE)**

**ULTRAESTRUTURA DAS MICROPLACAS DE *Brevipalpus* (ACARI: TENUIPALPIDAE)**

**E.W. Kiajima<sup>1</sup>, A.D. Tassi<sup>2</sup> & G. Alberti<sup>2</sup>**

<sup>1</sup>Departamento de Fitopatologia e Nematologia, ESALQ/USP, Piracicaba, Brasil;

<sup>2</sup>Allgemeine und Systematische Zoologie, Zoologisches Institut und Museum, Universität Greifswald, Greifswald, Germany.

*Brevipalpus* mites have recently attracted attention for the role as vectors for several plant viruses and also for their peculiar biology. They are referred to as flat or false spider mites, and ubiquitous in tropical and subtropical regions of the world. The integument has a thin epicuticle and a basal procuticle outside a thin epidermis. The most peripheral epicuticular layer, the cerotegument, is formed by a continuous thin layer and hemispherical granules, referred to as “microplates”. These microplates cover practically all the mite body, resembling hubcaps, with elliptical, oval and sometimes polygonal shape, with diameter varying from 0.2 to 1  $\mu\text{m}$  in diameter. Different *Brevipalpus* species and/or populations reveal varied patterns (smooth, parallel or crisscrossed lines, granules) on the microplate’s surface, which are being considered as another criteria for taxonomical purposes. In thin sections they exhibited an inner paracrystalline structure. Further studies on sectioned microplates at higher magnifications indicated that they have an inner pile of parallel arrays of closely packed microtubule-like structure, ca. 20 nm in diameter, with a lumen of ca. 13 nm. They extend longitudinally to the full length of the microplate. A single microplate may contain as much as 500 tubular structures. A dense mass surrounds the pack of the tubules holding them together. Such an internal structure of the microplate was common to microplates with varied external patterns. We do not have yet information regarding the process that lead to microplate formation and the nature of these tubular structures. They must be produced by the newly formed cuticle during the quiescent phase between each developing stage.

Keywords: epicuticle morphology, microtubule, transmission electron microscopy

Financial support: FAPESP, CNPq