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Situación actual y perspectivas de las principales especies de ácaros que afectan el desarrollo de los frutales en Cuba

Situation nowadays and perspectives of the main mites species affecting fruit tree development in Cuba

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The mite species include individuals of economic importance in fruit crops; among them are *Brevipalpus* of the family Tenuipalpidae, vector of the citrus leprosis virus, a quarantine disease in Cuba, and others mites belonging to the families Tetranychidae, Tarsonemidae, and Eriophyidae, which are capable of producing severe damages in fruit trees. In Cuba, the scientific research done has allowed the study of these pest mites under the technology of polycultures used in integral fruit tree farms. The obtained results are described in this paper, including new reports of phytomites species in non-citrus fruit trees. On the other hand, the existence of a species complex of *Brevipalpus* sp. has been expressed. Such species possess identification problems, because of the absence of males in the populations. By means of molecular techniques, applying the molecular marker ITS2, which constitutes a promising region to distinguish between individuals of the same species, the characterization of this mite taxon can be done. To perform this work, samples were collected from June 2008 to May 2011. Ten phytophagous mites belonging to the Tenuipalpidae and Tetranychidae families were identified, and fifteen new host plants were determined for Cuba. The chosen species of interest to perform the molecular characterization were *Brevipalpus phoenicis*, *Panonychus citri*, and *Oligonychus* sp. For the DNA extraction of these species and of the insect control, the chaotropic salts protocol was used for the first time, with good results. The content of nucleotide bases, length, and the enzyme restriction sites of the sequences were determined. The evolutionary potential of this marker was found to be in the adequate range for distinguishing specimens of the same genus. The molecular characterization of these species was carried out for the first time in Cuba. In the case of *B. phoenicis*, the sequence ITS2 determined constitutes a new report for the worldwide database.