

Jose Carlos Rodrigues

Molecular Characterization of *Leptomastidea* spp. (Encyrtidae, Hymenoptera) Populations from Puerto Rico, Barbados and Florida

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All known *Leptomastidea* are parasitoids of mealybugs, and at least one species, *L. abnormis* (Girault) is commonly used in biological control programs against mealybugs worldwide. Parasitoid wasps of the genus *Leptomastidea* (Hymenoptera: Encyrtidae) have been identified as important natural enemies of the *Harrisia* cactus mealybug (HCM), *Hypogeococcus pungens* (Granara de Willink) (Hemiptera: Pseudococcidae) in the Caribbean region. Three populations of *Leptomastidea* spp. have been identified attacking HCM in the region, and individuals were collected from Barbados, Puerto Rico and Florida. Morphological examinations by Dr. J. S. Noyes of the British Natural History Museum have been unable to establish taxonomical differences among individuals from these three populations. Nevertheless, minor morphological differences suggest the possibility of taxonomical divergence, which could lead to distinctive biological control potential. Genomic sequences of individuals from these populations were compared to determine their identity and their degree of genetic difference. Haplotypes of the three populations were different and the population from Puerto Rico was not genetically diverse, in contrast with those of Barbados and Florida. This study was able to provide evidence of differentiation of *Leptomastidea* spp. in Puerto Rico from other Caribbean populations in order to support the classical biological control of HCM.

Michel Dollet

Characterization of two haplotypes of *Haplaxius (Myndus) crudus*, vector of different phytoplasmas associated with palm diseases, using cytochrome oxidase I gene.

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In the 1980's *Haplaxius (Myndus) crudus* (Cixiidae) was reported to be the vector of the phytoplasma disease "lethal yellowing" (LY) of coconut palm in Florida. Most recently, the LY phytoplasmas have been shown to belong to the group 16S rIV-A. Transmission of the 16Sr IV-D phytoplasma ("Texas *Phoenix* palm decline") by *H. crudus* to *Pritchardia pacifica* was obtained in Yucatan, however transmission to coconut was not demonstrable. The taxonomy of the Cixiidae is confounding owing to the often cryptic nature of closely related variants and species, particularly of the tribe Oeclini Muir, 1922 to which *Haplaxius* belongs. Recently several *Myndus* species were transferred to other genera. *Haplaxius* itself was moved to the genus *Myndus* and re-classified as *Haplaxius*. In 2008 it was shown that phylogenetic trees reconstructed using the cytochrome oxidase I gene (mtCOI) and the 18S rDNA sequences were congruent, and that the trees were consistent with morphological classification for Oeclini. The highly evolving mitochondrial mtCOI were used to ascertain if differences occurred between *H. crudus* populations from Mexico with respect to the transmission of group 16S rIV-A and 16S rIV-D. Results indicated that two haplotypes of *H. crudus* exist in Mexico, possibly involved in the transmission of one of the two phytoplasma groups.

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Programme, participant list
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