

Detection and genetic characterization of *Wolbachia* a symbiont bacteria of Culicidae from Parque Ecológico do Tietê, São Paulo, Brazil

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Mosquitoes of the family Culicidae are epidemiologically relevant owing to their vectorial capacity for several human/animal pathogens. The urban park “Parque Ecológico do Tietê” (PET) is unique epidemiological scenario in São Paulo city (Brazil): Owing to the fact that the park harbours dozens of mosquito species, the thousands of leisure tourists that visit the park weekly are under risk of infection by insect-borne pathogens. In an attempt to enrich the basic knowledge on culicids from PET and to help the development of new strategies to control those mosquitoes, we investigated the presence of *Wolbachia* in those mosquitoes. The bacteria *Wolbachia* are vertically-transmitted obligatory endosymbionts of arthropods and nematodes. Owing to its capability of altering the reproduction and other physiological features of its hosts, *Wolbachia* has been proposed as a “biological tool” to control Culicidae vectors. We detected the presence of *Wolbachia* using the amplification and sequencing of the bacterial genes: *wsp* and 16S rDNA. Seven species (73% of the 216 individual mosquitoes) were infected by *Wolbachia*, including some abundant species of *Aedes* and *Culex*. Phylogenetic tree of the *Wolbachia* we found (based on 16S) was not congruent to the phylogeny of its respective culicid hosts, revealing that bacteria and hosts have not followed the same evolutionary history. In addition, the high similarity among 16S sequences lead us to hypothesize that *Wolbachia* transmission in the culicid community of PET is primarily horizontal. If correctly interpreted, this pattern may be suitable for paratransgenesis to reach several species simultaneously.

Biography

Stella Nogueira Pereira graduated in São Camilo University (São Paulo, Brazil). Present work comprises partial results of her Scientific Initiation degree which is under development at Butantan Institute (Brazil).

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