

Popular Scientific Report

The reproductive parasite *Wolbachia pipientis*

Wolbachia pipientis are very common bacteria, found inside the cells of insects and nematode worms. In insects in particular, it is currently estimated that approximately 60 % of all species bear *Wolbachia* infections. Surprisingly, while *W.pipientis* in nematode worms typically expresses a mutually beneficial lifestyle, in insects it renders several changes on the host for its own benefit and spreading.

The most common effect that *W.pipientis* has on insects is cytoplasmic incompatibility (CI). Through CI the bacterium alters the host biology so that the adult females that carry the infection have a reproductive advantage. More specifically, infected females can produce viable offspring in all cases while uninfected females can only produce descendants when mated with uninfected males. This eventually results in increased representation of *W.pipientis* among host populations.

The aim of this study is to identify possible factors involved in CI by comparing the genes of two closely related strains while using bioinformatic approaches. *W.pipientis* is found in various vectors of diseases, such as filariasis that is transmitted by nematode worms and dengue fever that is transmitted mainly by the *Aedes aegypti* mosquitoes; consequently, the study of the biology of this organism can be not only fascinating but also very promising regarding future applications.

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