Seventh Workshop Dynamical Systems Applied
to Biology and Natural Sciences DSABNS 2016
Évora, Portugal, February 2-5, 2016

QUIESCENCE EGGS AND VERTICAL TRANSMISSION – ARE THEY IMPORTANT IN DENGUE TRANSMISSION?

Hyun Mo Yang[1]*

[1]UNICAMP, Imecc, Dma

hyunyang@ime.unicamp.br(*corresponding author)

ABSTRACT

The anthropophilic and peridomestic female *Aedes aegypti* bites humans to suck blood to maturate fertilized eggs, during which dengue virus can be spread between mosquito and human populations. Besides this route of transmssion, there is possibility of dengue virus being passed directly to offsprings through transovarial transmission. After biting humans, fertilized eggs are laid in appropriate recipients (breeding sites). These eggs can hatch in contact with water releasing larvae, or can be stored in a dormant state (quiescence), which last for extended periods. Mosquitoes and humans are coupled in order to assess the dynamics of dengue virus transmission taking into account both horizontal and vertical transmissions. With respect to transovarial transmission, the influence of stored eggs is assessed [1, 2].

References

[1] HM Yang (2014) *Assessing the Influence of Quiescence Eggs on the Dynamics of Mosquito Aedes aegypti*, Applied Mathematics, Volume **5** , pp. 2696-2711.

[2] HM Yang (2015) *Assessing the contribution of transovarial transmission in the dynamics of dengue infection*, Theoretical Population Studies, submitted.

©DSABNS ISBN: 978-989-98750-2-9