Abstract:

The composition of the microbiome of insect vectors plays an irreplaceable role in the spread of human pathogens. Current knowledge of the interrelationships between phlebotomes, bacteria, and pathogens is quite limited. This thesis focuses on bacterias *Asaia* sp., which can be localized in a phlebotome microbiome.

Both investigated species, *Asaia siamensis* and *Asaia krungthepensis*, can colonize the gut of *Phlebotomus duboscqi*, and, in addition, both transstadial transmission between larval stages and contaminative transmission to the next generation has been proved. Considering the superinfection of *Ph. duboscqi* with *Asaia* sp. and *Leishmania major*, the influence of bacteria on the development of leishmania infection has also been demonstrated. Results can have significant epidemiological implications and should be further investigated.

Keywords: *Phlebotomus*, superinfection, *Asaia siamensis*, *Asaia krungthepensis*, *Leishmania major*, microbiome