

Georgia Southern University

Georgia Southern Commons

Jiann-Ping Hsu College of Public Health News
(2011-2023)

Jiann-Ping Hsu College of Public Health
Publications

11-27-2019

College of Public Health News

Georgia Southern University

Follow this and additional works at: <https://digitalcommons.georgiasouthern.edu/coph-news-online>



Part of the [Public Health Commons](#)

Recommended Citation

Georgia Southern University, "College of Public Health News" (2019). *Jiann-Ping Hsu College of Public Health News (2011-2023)*. 237.

<https://digitalcommons.georgiasouthern.edu/coph-news-online/237>

This article is brought to you for free and open access by the Jiann-Ping Hsu College of Public Health Publications at Georgia Southern Commons. It has been accepted for inclusion in Jiann-Ping Hsu College of Public Health News (2011-2023) by an authorized administrator of Georgia Southern Commons. For more information, please contact digitalcommons@georgiasouthern.edu.

[Georgia Southern: Completes Molecular Survey Study for Pathogens and Markers of Pesticide Resistance in Human Head Lice from Madagascar](#)

November 27, 2019



Dr. Marina Eremeeva

Infestation with head lice is the most prevalent human ectoparasitic condition in the modern world. Dr. Marina Eremeeva, from Georgia Southern University Jiann-Ping Hsu College of Public Health, and a team of researchers conducted a molecular survey of human head lice from six isolated rural communities in Madagascar. The lice were examined for the occurrence of biomarker of permethrin resistance and for evidence of infection with two different louse-borne bacteria, *Bartonella quintana* and *Acinetobacter* spp. including *Acinetobacter baumannii*. This collaborative project was developed to better understand the role of lice as potential vectors of infectious disease agents in isolated communities living in poverty. The study detected *B. quintana* carriage by 12.6 percent of lice from 4 villages and *Acinetobacter* by 42 percent of lice in all locations, indicating significant risk to human health. The occurrence of a kdr permethrin-resistance mutation was detected in 70 percent of lice from all the villages. This finding was unexpected and may be a

result of the high frequency use of insecticide-treated nets and residual indoor spraying in Madagascar. According to Dr. Eremeeva this observation was new since in developed countries a high prevalence of permethrin resistance is associated with uncontrolled use of over-the-counter pyrethroid-based pediculicides. A follow-up study will be needed to conduct biological evaluations of the lice and to determine susceptibility of Malagasy head lice to non-permethrin pediculicides and other potential control remedies. Local barriers to control and elimination of human lice in Madagascar will also be evaluated.

[Full article](#)

Posted in [BEES Department News](#), [None](#)

Georgia Southern: Completes Pilot Survey of Mosquitos from Southeastern Georgia for *Wolbachia* and *Rickettsia felis*

November 27, 2019



Dr. Marina Eremeeva

Mosquito surveillance is one of the critical functions of local public health departments, particularly during the outbreaks of severe mosquito-borne viral infections. Unfortunately, some viral and parasitic infections transmitted by mosquitoes manifest with non-specific clinical symptoms which could be caused by other pathogens including *Rickettsia felis*. This study tested the hypothesis that mosquitoes from southeastern Georgia, in the U.S., may be infected with *R. felis* and *Wolbachia* endosymbiont used for mosquito control.

Specimens of the five most common mosquito species occurring in Statesboro were tested using molecular methods to confirm morphological mosquito identification and to detect the presence of target bacteria.

Two genotypes of *Wolbachia*, A and B were detected in 66.7 to 97.9 percent tested pools of *Culex* mosquitoes and 95.5 percent of *Aedes albopictus*; however, DNA of *Anopheles* species were negative for *Wolbachia*. DNA of *R.*

felis was not found in any pool of mosquitoes tested. Dr. Eremeeva stated that this publication highlights the importance of undergraduate student involvement in faculty research programs for both students and faculty. All testing for this project was carried out by Mr. Matt Anderson who developed a new detection assay for his research project supported by the ASM Undergraduate Fellowship. This study provided pilot scale data on the high presence of *Wolbachia* in mosquitoes prevalent in southeastern Georgia. Since *Wolbachia* is an increasingly important biological-vector control strategy, further studies are warranted to confirm the diversity of circulating *Wolbachia* genotypes and to examine its variability in mosquito populations from more sites in the region.

[Full article](#)

Posted in [BEES Department News](#), [None](#)