BayCEER Kolloquium

Lectures in Ecology and Environmental Research

Summer 2018

UNIVERSITÄT BAYREUTH

Thursday
28.06.2018
12:00 in H6, GEO

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From the field to the lab to integrated risk assessment of vector-borne pathogens

Mosquitoes (Diptera: Culicidae) are vectors of various zoonotic pathogens (e.g. viruses, nematodes or protozoans). At least three different mosquito-borne viruses (Sindbis virus, Batai virus and Usutu virus) and two filarial parasites *(Dirofilaria repens, D. immitis)* also circulate in Germany, affecting human and animal health. In addition, globalization and climate change results in the worldwide spread of invasive mosquito species and tropical pathogens. For example, the exotic Asian tiger mosquito (*Aedes albopictus)* spread in Europe since the 1980, resulting in repeated epidemics of chikungunya virus in France and Italy with several hundred human cases. Just recently, the mosquito species also established in different sites in Germany, increasing the risk of local pathogen transmission.

Based on field and lab work conducted at the Bernhard Nocht Institute for Tropical Medicine over the last 10 years, my talk will focus on the spatial risk assessment of mosquito-borne pathogens in Germany. The basis is a comprehensive surveillance of mosquito-borne pathogens in mosquitoes, birds, and humans. In addition, the presented topics include the host-feeding patterns of mosquitoes and the genetic structure of overwintering populations of the Asian tiger mosquito in Germany. Furthermore, recent results of experimental infection studies with the recently emerging Zika and chikungunya virus with exotic and native mosquito species are presented. All these data are used in mechanistic and correlative models for an integrated risk assessment of vector-borne pathogens.

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The lectures are an inter-disciplinary platform for students, junior and senior scientists. Abstracts and further information: www.bayceer.uni-bayreuth.de/kolloquium/