

Pressemitteilung**Universität Bayreuth****Anja-Maria Meister**

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Biologie, Medizin, Umwelt / Ökologie
überregional**Bayreuth researchers work interdisciplinarily on the elucidation of the Asian tiger mosquito**

Climate change promotes the settlement of non-native mosquitoes and pathogens in Bavaria. Scientists at the University of Bayreuth are working on an interdisciplinary project to develop a warning system that will provide different behavioural recommendations and protective measures for the population depending on the risk. The focus is on the West Nile virus, which can be transmitted by domestic mosquito species, and the Chikungunya virus, which can be transmitted by the Asian tiger mosquito.

The joint project Climate Change and Health (VKG II), as an interdisciplinary cooperation project of the Chair of Biogeography with the Institute of Medical Management and Health Sciences (IMG) of the University of Bayreuth, deals with the (further) development, evaluation and validation of a warning system for mosquito-borne diseases. The project started on 1 June 2022 and is funded by the Bavarian State Ministries for Health and Care (StMGP) and for the Environment and Consumer Protection (StMUV). The project leaders are Prof. Dr. Carl Beierkuhnlein, Dr. Stephanie Thomas (Chair of Biogeography) and Prof. Dr. mult. Eckhard Nagel (IMG). The basic principles for the warning system were developed in a previous project and shed light on which climatic changes influence the transmission of viruses by mosquitoes. The focus here is on the viral disease West Nile fever, which first appeared in humans in Germany in 2019.

A model for the spread of West Nile fever has now been developed at the Department of Biogeography. In addition to the known areas of transmission in eastern Germany, initial results also show areas in Baden-Württemberg, Hesse, Rhineland-Palatinate and in North Rhine-Westphalia. "There, cases could well occur in birds in the next few years, which are then - as in the case of eastern Germany - harbingers of occurrence in humans," says Dr Stephanie Thomas. Based on very high-resolution environmental data, the Chair of Biogeography will also identify areas that would be suitable for a settlement of the Asian tiger mosquito. For this purpose, temperature data from climate change projections in the inner-city environment will also be integrated. "This will support mosquito monitoring and control programmes," says Thomas.

Within the project, the IMG will take on the task of obtaining an assessment of the future warning system from doctors, vulnerable people and experts. The results will then be used to adapt the warning system to the needs of these groups. In addition, the user-friendliness of the online platform will be assessed. It will be analysed how often and to what extent doctors and the population inform themselves about mosquito-borne infectious diseases and how this can be optimised by the warning system.

The IMG will also act as a mediator in the cooperation with the public health service, which is especially important for the development of a generally understandable score system. A standardised traffic light warning system will serve as a model and inform users about the local risk of infection for certain zoonoses - diseases that are naturally transmissible from vertebrates to humans. Depending on the risk and warning level, this results in different behavioural recommendations and protective measures for the population.

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