

ESR24-005 - City-invading mosquitoes of medical importance: habitat preferences and molecular detection in Vienna

Zusammenfassung

Research on urban mosquitoes is an important but largely neglected field. In consequence, knowledge on habitats and distribution of urban mosquitoes is below par and this represents a substantial knowledge gap as demonstrated by recent outbreaks of mosquito-borne diseases in Europe.

Urban landscapes offer a wide range of natural and artificial habitats, but which mosquitoes are associated with specific urban habitats is not well known. Also, mosquito detection and monitoring is difficult to achieve in the complex urban landscapes so that knowledge on urban mosquito distribution is direly needed. In this context, we propose studying the distribution, habitat preferences and habitat use of mosquitoes in the three climate zones of the city of Vienna. Here, about 25 mosquito species were detected in the past (including three non-native *Aedes* species) that include competent vectors for a wide range of pathogens – also emerging ones. Our results will provide a first assessment on the city-wide distribution of mosquitoes and their preferred habitats. Moreover, we will develop and test molecular approaches to mosquito detection and identification in urban environments for future use.

Thereby, we aim to establish the baseline for an improved monitoring of mosquitoes in urban and periurban landscapes of Vienna and provide fundamental knowledge for mosquito and mosquito-borne pathogen management.

Wissenschaftliche Disziplinen:

Limnology (50%) | Molecular biology (30%) | Veterinary parasitology (20%)

Keywords:

Mosquitoes Invasive Species environmental DNA Digital Droplet PCR Disease Vectors Emerging pathogens

Principal Investigator: Carina Zittra

Institution: University of Vienna

Co-Principal Investigator(s): Simon Vitecek (WasserCluster Lunz $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ Biologische Station GmbH)
Hans-Peter Fuehrer (University of Veterinary Medicine Vienna)

Status: Vertrag in Vorbereitung

Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter

<https://www.wwf.at/funding/programmes/esr/ESR24-005/>