

Wintersemester 2011/12

Gebäude NW I
Hörsaal H12

BayCEER Kolloquium

Vortragsreihe Ökologie und Umweltforschung

Donnerstag 17.11.2011, 17:00 Uhr, H12

Anschließend Postkolloquium mit Bier und Brezeln im H12

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Climatic factors driving disease vector invasions in Europe: the tiger mosquito spread and other cases

Many continents, including Europe, are facing an increasing risk of introduction or spread of tropical vector-borne diseases transmitted by insects, ticks and rodents threatening human and animal health. Already present in Europe are Tick-borne Encephalitis, Lyme disease, Leishmaniasis, Bluetongue, Chikungunya, and diseases caused by West Nile virus, Toscana virus and Hantavirus.

The activity of e.g. ticks and insects depends directly on environmental conditions. Especially relevant is temperature which controls winter survival, vector population growth, feeding behavior, susceptibility of the vector to pathogens, synchrony among life stages, and the spread of the vectors to more northern latitudes.

Forced by the climate change, new ecological niches are expected to be established until 2100 and (re-)colonized by vectors along the northern limits of tick, tiger mosquito, and sand fly distributions in Europe concurrent with the increase of the suitable habitat for these vectors. Moreover, secondary infection routes have been recently identified. The presence of a competent vector would also allow local outbreaks in other regions when diseases are imported. The advent of high temporal resolution remote sensing data (e.g. gap-filled MODIS data) and the availability of long term historical and climatic data time series about future scenarios help to understand the epidemiology of diseases and to improve disease prevention and control.

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