



Europe at risk from spread of tropical insect-borne diseases

Scientists warn of danger from dengue fever in hotter, wetter climate in northern latitudes

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Insect-borne diseases such as dengue fever, leishmaniasis and encephalitis are on the rise and are now threatening to spread into many areas of Europe, scientists have warned.

Outbreaks of these illnesses are increasing because of climate change and the expansion of international travel and trade, the European Congress of Clinical Microbiology and Infectious Diseases was told in Amsterdam on Saturday.

Even previously unaffected areas in higher latitudes and altitudes, including some parts of northern Europe, are at risk of outbreaks unless action is taken to improve surveillance and data sharing, the researchers said.

“Climate change is not the only, or even the main, factor driving the increase in vector-borne diseases across Europe, but it is one of many factors alongside globalisation,

socioeconomic development, urbanisation and widespread changes to land use which need to be addressed to limit the importation and spread,” said the lead author Professor Jan

Semenza, of the European Centre for Disease Prevention and Control in Stockholm.



An adult female mosquito seen under a microscope. Photograph: Kevin Frayer/Getty Images

This point was backed by Giovanni Rezza, of the Istituto Superiore di Sanità in Rome.

“Lessons from recent outbreaks of the West Nile virus in North America and the chikungunya virus in the Caribbean and Italy highlight the importance of assessing future vector-borne disease risks,” he said.

Global warming has allowed mosquitoes, ticks and other disease-carrying insects to proliferate, adapt to different seasons and invade new territories across Europe over the past decade, with accompanying outbreaks of dengue in France and Croatia, malaria in Greece, West Nile fever in south-east Europe and chikungunya in Italy and France.

Worryingly, the authors said, this might only be the tip of the iceberg. “Mediterranean Europe is now a part-time tropical region, where competent vectors like the tiger mosquito are already established,” added Rezza. And in future, hotter and wetter weather could provide ideal conditions for the Asian tiger mosquito, which spreads the viruses that cause dengue and chikungunya, to breed and expand across large parts of Europe, including the south and east of the UK and central Europe.

Previously dengue transmission was largely confined to tropical and subtropical regions because freezing temperatures kill the mosquito’s larvae and eggs, but longer hot seasons could enable the Asian tiger mosquito to survive and spread across much of Europe within decades, the researchers warned.

“Given the ongoing spread of invasive mosquitoes and other vectors across Europe, we must anticipate outbreaks and move to intervene early,” added Semenza.

“Public health agencies need to improve surveillance, for example through early warning systems, and increased awareness of the potential risks among healthcare workers and the general public.”

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