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Fever Outbreak in Italy Linked to Climate Change

Maria Cheng in London
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Nearly 300 cases of [mosquito](#)-borne chikungunya fever have been reported in [Italy](#)—where only isolated cases of the virus had been seen in the past.

Such large outbreaks previously were documented only in [Africa](#) and [Asia](#).

"We were quite surprised," said Stefania Salmaso, director of Italy's Center for Epidemiology at the National Health Institute. "Nobody was expecting that such an unusual event was going to happen."

While the mostly nonfatal outbreak was largely the result of increasingly global trade and travel ties, some experts believe it is a sign of how global warming is creating new breeding grounds for diseases long confined to subtropical climates.

Officials at the European Centre for Disease Prevention and Control (ECDC) said the particularly mild winter in Italy allowed mosquitoes to start breeding earlier than usual, giving the insect population a boost.

"This outbreak is most important as a warning signal," said Diarmid Campbell-Lendrum, a climate change expert at the World Health Organization (WHO). "Climate change affects the breeding of every mosquito on earth."

More mosquitoes will mean more disease. With warmer temperatures in the future, [Europe](#), and [North America](#) might be hit by outbreaks of diseases usually confined to southern continents.

"With more movement of people and a changing climate, there will be shifting patterns of disease," Campbell-Lendrum said. "We need to be prepared for more surprises like this in the future."

Chikungunya to Dengue ?

Italian officials first grew suspicious in July, when dozens of people in the country's northeast complained of fevers, joint pain, headaches, and rashes. Local doctors thought they had been bitten by sand flies, but lab tests confirmed chikungunya fever.

Officials believe the virus arrived when an [Indian](#) tourist brought the virus to the Italian province of Ravenna. The Asian tiger mosquito, which can spread the disease, had reached Italy nearly two decades earlier.

Experts are also nervous because the tiger mosquito might be capable of spreading more dangerous diseases like dengue fever and yellow fever ([see a photo of the tiger mosquito](#)).

(Related story: [Climate Change Spurring Dengue Rise, Experts Say](#) [September 21, 2007])

"Dengue would certainly be more worrying than chikungunya," said Denis Coulombier, the ECDC's head of preparedness and response. "It is something we need to keep an eye on, because the possibility is there."

Most scientists think Europe's advanced health systems and high living standards will help avert widespread disease. Malaria was once endemic in much of Europe but disappeared once the swamps that bred mosquitoes were replaced

by buildings, and medicines to treat malaria became widely available.

But development doesn't deter all mosquitoes. Certain species prefer artificial breeding sites like rain-filled gutters and plastic containers. "If the climate gets suitable enough, then even very high living standards won't necessarily protect you," said WHO's Campbell-Lendrum.

Next Spring

Although Italy's chikungunya outbreak has been contained, "the big question is what is going to happen in the spring next year," said Coulombier.

Other European countries should pay attention: [France](#) also saw a few dozen cases of chikungunya last year.

"Italy is not the only country that needs to prepare for another outbreak," said Evelyn Depoortere, a chikungunya expert at the European Centre. "Southern European countries around the Adriatic coast like [Greece](#), France, and [Spain](#) are also at risk."

As long as temperatures keep rising, health officials say, disease detection and response systems need to be reinforced.

"Climate change is one more factor pushing us in the direction of more disease," said Campbell-Lendrum. "With warmer weather, it is very likely we will have diseases popping up in Europe that no one had ever expected to see."

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