

New comprehensive study on feeding patterns of tiger mosquitos in Europe

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This is an *Aedes albopictus* female mosquito obtaining a blood meal from a human host. Credit: CDC

This study, published recently in the international journal *Insects*, was conducted by researchers from the University of Granada, the Doñana Biological Station, and the Biomedical Research Networking Centre for Epidemiology and Public Health (CIBERESP).

Researchers from the University of Granada (UGR), the Doñana Biological Station (EBD-CSIC), and the Biomedical Research Networking Centre for Epidemiology and Public Health (CIBERESP) have carried out the most comprehensive study to date of the eating patterns of the tiger mosquito (*Aedes albopictus*) and other [invasive species](#) of the same genus in Europe. The results of the study were recently published in the international journal *Insects*.

This research, which reviews all previously published studies on this topic, shows that these species of mosquitoes feed off different groups of vertebrates, especially mammals, and humans are also common hosts. Not surprisingly, [human blood](#) represents 93% of the blood meals of *Aedes aegypti*, the mosquito responsible for yellow fever.

Mosquitoes are one of the main groups of vector insects—that is, insects involved in the transmission of major [pathogens](#) that adversely affect people, livestock, and wildlife. As with other groups of animals, different species of invasive mosquitoes have become established in areas outside their original range. This is the case with different species of mosquitoes of the *Aedes* genus, which are of particular importance from the [public health](#) perspective, due to their capacity to transmit pathogens that cause serious diseases.

"Thus, the appearance of these species can modify the local epidemiology of many pathogens in invaded areas, including pathogens that circulate naturally in the environment, or imported pathogens," explains one of the authors of the work, Josué Martínez de la Puente, a researcher at the UGR's Department of Parasitology.

So far, four invasive species of the *Aedes* genus have established populations in Europe, which include such relevant vector species as the tiger mosquito, *Aedes albopictus*.

Blood meals

To complete their [life cycle](#) and the development of their eggs, female mosquitoes require blood meals taken from different vertebrate hosts. In addition to causing discomfort, the bites they cause can transmit different pathogens. "Therefore, this blood-feeding behaviour represents a fundamental factor, the relevance of which needs to be studied to understand the epidemiology of different diseases. In this review article, we study the feeding patterns of those four invasive mosquitoes of the *Aedes* genus in Europe," explains Martínez de la Puente.

The results show that these species of mosquitoes feed off different groups of vertebrates, especially mammals. Humans are common hosts for these mosquitoes, representing 93% of the blood meals of the *Aedes aegypti* species. In addition, [mosquitoes](#) are capable of feeding on the blood of other groups of vertebrates, including birds and even ectothermic animals (those whose body temperature changes in line with the temperature of the environment).

Given their capacity to transmit different pathogens and their feeding rates among humans, invasive mosquito [species](#) of the *Aedes* genus may have a significant impact on the transmission of these pathogens in urban and periurban areas, the authors conclude.

More information: Sonia Cebrián-Camisón et al, A Literature Review of Host Feeding Patterns of Invasive *Aedes* Mosquitoes in Europe, *Insects* (2020). [DOI: 10.3390/insects11120848](https://doi.org/10.3390/insects11120848)

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