Invasive mosquito found in Finland could potentially transmit malaria

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Anopheles daciae. Credit: Lorna Culverwell

During collections for a study to map the distribution of mosquito species in Finland, Anopheles daciae, a species previously not known to occur in Finland was found at several locations in the south of the country. As this species is very closely related to known malaria vectors, it is assumed to also be capable of transmitting malaria.

Anopheles daciae, which was only described as a species in 2004, belongs to the Anopheles maculipennis complex—a group of visually identical but distinct species from which three species have previously been found in Finland. The species in this complex may be identical in appearance, but the differences can be seen when DNA is sequenced.

Anopheles messeae, another species included in the complex, is the primary mosquito species responsible for transmitting malaria in Europe. It is assumed that this species was also responsible for transmitting malaria until the 1950's, when malaria declined in Finland.

According to Lorna Culverwell, a doctoral student at the University of Helsinki, information on the distribution of mosquito species that transmit any pathogens, including malaria is important, particularly as the climate is warming.

"As malaria is not currently endemic in Finland, there is no reason to panic at this finding. However, the coronavirus pandemic has demonstrated that we have to be prepared for all public health eventualities," Culverwell says.

"From the perspective of preventing and controlling mosquito-borne pathogens such as malaria, Sindbis virus (Pogosta disease) or Usutu virus, we need to have basic knowledge of the mosquito species occurring in Finland, their distribution and which disease-causing pathogens each species can potentially transmit. Such knowledge provides the framework for future disease control measures," she adds.

The mosquitoes studied in the survey were collected throughout Finland between 2013 and 2018, most of them by Culverwell.

Anopheles daciae or Anopheles messeae, potential malaria transmitters, were found in the regions of Uusimaa, Varsinais-Suomi, Kymenlaakso,

Kanta-Häme, Pirkanmaa, Pohjois-Pohjanmaa, Päijät-Häme, Satakunta and Åland.

More information: C. L. Culverwell et al. Anopheles daciae , a new country record for Finland, *Medical and Veterinary Entomology* (2020). DOI: 10.1111/mve.12431

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