Study finds introduced mosquito species active all year round

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Australia has plenty of 'home grown' mosquitoes but one introduced species is active all year round, according to a three-year study by University of Sydney researchers.

Its scientific name is Culex molestus but it is commonly known as the London Underground Mosquito.

Dr Cameron Webb, from University's Department of Medical Entomology and Pathology West - ICPMR Westmead said the mosquito feasted on Londoners who took shelter in the underground train network during the bombings of the city in the 1940s.

"One of the most important findings of this study was that an analysis of weekly mosquito trapping over a 13-month period indicated that the mosquito remains active over cooler months. Almost all other mosquitoes disappear during winter.

"The mosquito is unique in that it prefers to live in underground environments but there are now concerns regarding the role this mosquito may play in the transmission of mosquito-borne viruses in Australian cities," he said.

"We normally think of mosquitoes being a problem in the tropical regions of the world but as the outbreak of West Nile virus in North America last year showed us, temperate regions of the world are at risk too.

"It is a common misconception that mosquito-borne diseases in Australia are limited to our northern states. Disease caused by Ross River virus and Barmah Forest virus are commonly reported from southern states and, increasingly, at the fringes cities such as Sydney, Melbourne and Perth."

Dr Webb is the team leader of the study, which has been published in this month's edition of the *Australian Journal of Entomology*.

The research findings indicate that the mosquito is widespread, being collected at over 230 locations but interestingly, no specimens have been reported from Queensland or Northern Territory.

Dr Webb said populations of this mosquito had not been the focus of substantial research in Australia for over 50 years.

"The project was designed to address the gaps in our knowledge of this species with a view to assisting in the assessment and management of mosquito-borne disease risk in our cities," he said.

"Genetic analysis of specimens from throughout Australia, as well as Asia, Europe and North America, indicate that the species was most likely introduced from Japan," Dr Webb said.

"It has long been suspected that the mosquito hitched a ride to Australia with military movements into Victoria during WWII. The results of this study support that theory. This research project has filled some gaps in our knowledge of this often overlooked and unusual mosquito.

"The implications from this research is that local authorities must be mindful of this mosquito's ability to exploit unexpected underground habitats. As we increase water storages in metropolitan regions of Australia, we must be careful not to create new underground habitats for this pest mosquito," warns Dr Webb.

More information:
onlinelibrary.wiley.com/doi/10.1111/aen.12021/full

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