Hendra virus confirmed in flying foxes in broad region of Australia

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Hendra virus can be transmitted from flying foxes to horses and from horses to people. Credit: CSKK, Flickr CC-BY NC ND-2.0

Scientists at CSIRO, Australia's national science agency, have uncovered a new type of Hendra virus in flying foxes, confirming the virus can be found across a broad region of the country.

A paper detailing the findings has been published just days after the new

genetic type (HeV-g2) was detected in a horse near Newcastle in New South Wales, the most southern case of Hendra yet recorded.

Hendra virus can be transmitted from flying foxes to horses, and from horses to people. Previous studies had found the virus in flying foxes in Queensland and parts of New South Wales. After monitoring flying fox samples from 2013-2021, researchers at CSIRO's Australian Centre for Disease Preparedness (ACDP) found the new genetic type in flying foxes in Victoria, South Australia, and Western Australia.

ACDP is a World Organisation for Animal Health (OIE) reference laboratory for Hendra and Nipah virus diseases. Reference expert and CSIRO scientist Dr. Kim Halpin said spillover of the disease from flying foxes to horses has still only been reported in Queensland and New South Wales.

"However, because Hendra Virus Genotype 2 is so genetically similar to the original Hendra virus, there is a potential risk to horses wherever flying foxes are found in Australia," Dr. Halpin said.

"It's important to note that Hendra has never been reported to spread directly from flying foxes to humans—it's always been transmitted from infected horses to humans. We expect this new genetic type would behave the same way.

"And given the similarities, while more research is needed, we expect the existing Hendra virus vaccine for horses should work against this new type too.

"This finding really underscores the importance of research into flying foxes—it's crucial to helping us understand and protect Australians against the viruses they can carry."

Another project, called "Horses as Sentinels," led by the University of Sydney and CSIRO and funded by a Biosecurity Innovation Program grant from the Department of Agriculture, Water and the Environment, detected the same genetic type earlier this year in samples collected from a horse from Queensland in 2015. Results of this research are available in preprint.

Dr. Steve Dennis, President of Equine Veterinarians Australia, said the findings are a reminder there's a risk of Hendra virus wherever there are flying foxes and horses.

"Owners and any people who interact with horses can reduce the risk of infection from Hendra virus and other zoonotic viruses through vaccination of horses or humans where available, wearing appropriate PPE, and seeking veterinary attention for sick horses," Dr. Dennis said.

CSIRO and the "Horses as Sentinels" project team have been working closely with vets and laboratories around Australia to implement improved tests for horses with signs of Hendra virus disease.

Peer-reviewed results of CSIRO's flying fox study have just been published in *Virology Journal*.

  More information: Jianning Wang et al, A new Hendra virus genotype found in Australian flying foxes, *Virology Journal* (2021). DOI: 10.1186/s12985-021-01652-7

Edward J. Annand et al, Novel Hendra virus variant detected by sentinel surveillance of Australian horses, (2021). DOI: 10.1101/2021.07.16.452724

More information for horse owners is available at www.outbreak.gov.au/for-vets-a … entists/hendra-virus