

Thai dogs carry bird-flu virus, but will they spread it?

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Antibodies to H5N1 found in village dogs and cats.

Large numbers of domestic dogs and cats in Thailand may be infected with the H5N1 strain of avian flu, Nature has learned. Experts are struggling to work out whether such carnivores might be spreading the disease.

In an unpublished study carried out last year by the National Institute of Animal Health in Bangkok, researchers led by virologist Sudarat Damrongwatanapokin tested 629 village dogs and 111 cats in the Suphan Buri district of central Thailand. Out of these, 160 dogs and 8 cats had antibodies to H5N1, indicating that they were infected with the virus or had been infected in the past. "That's a lot," says Albert Osterhaus, a virologist at the Erasmus University in Rotterdam, the Netherlands. "This is definitely something to look into." So far, researchers at Bangkok's Chulalongkorn University have isolated the virus from at least one of the dogs.

Wild cats, including tigers, are known to be susceptible to the virus, but this is the first scientific study to find it in dogs, suggesting that infection could be widespread. Osterhaus is pressing officials at the UN Food and Agricultural Organization (FAO) and the World Organisation for Animal Health to monitor dogs, cats and other carnivores for H5N1. "It's a gap in our surveillance," he says. "Basically all carnivores seem susceptible."

This study is the first to look at the prevalence of the virus in dogs or cats in the field - despite anecdotal reports of cat deaths near poultry outbreaks. But Osterhaus's team has done experiments showing that domestic cats get ill and die from H5N1, and can transmit the disease to other cats (T. Kuiken et al. *Science* 306, 241; 2004).

And last month, a team from his lab published experiments showing that infected cats excrete virus in their faeces as well as in coughed-out droplets, suggesting that they could spread the disease (G. F. Rimmelzwaan et al. *Am. J. Pathol.* 168, 176-183; 2006).

"It is still uncertain what role, if any, this might play in transmission," says Maria Cheng, a spokeswoman for the World Health Organization. "We do not have a full understanding of the viral load needed for human infection, and whether or not the infection of animals other than poultry might contribute."
