

Fruit Bats and Flu

In the past, influenza A virus has been found in fruit bats from Guatemala, Central America. A recent publication in PLoS Pathogens, has found similar viruses in bat species from South America. When the authors examined rectal swabs from bats sampled in the Amazon rainforest region of Peru they identified another new influenza A virus from bats. This virus is phylogenetically distinct from the one identified in Guatemala. Testing blood samples from several species of Peruvian bats indicated a high prevalence of antibodies to the surface proteins. Phylogenetic analyses demonstrate that bat populations from Central and South America maintain as much influenza virus genetic diversity in some gene segments as all other mammalian and avian species combined. The crystal structures of the hemagglutinin and neuraminidase proteins indicate that sialic acid is not a receptor for virus attachment nor a substrate for release, suggesting a novel mechanism of influenza A virus attachment and activation of membrane fusion for entry into host cells. In West Africa, bats are known to be the source of Ebola virus – the cause of the current devastating outbreak – and the findings from this paper indicate that bats also constitute an important reservoir for influenza viruses.

[Tong, S. et al. 2014. New World Bats Harbor Diverse Influenza A Viruses. PLOS.](#)