

Scientists detect presence of marburg virus in african fruit bats

August 22 2007

A collaborative team of scientists reported findings today demonstrating the presence of Marburg virus RNA genome and antibodies in a common species of African fruit bat (*Rousettus aegyptiacus*).

Appearing in the open-access scientific journal PLoS ONE, the study is the first in which RT-PCR and serological findings have both affirmed Marburg infection in a specific bat species. The natural reservoir for Marburg virus has been the subject of much speculation and scientific investigation. In demonstrating evidence of infection in this common species of fruit bat, the paper provides new insight into a deadly disease that has long baffled epidemiologists, ecologists and virologists, and in which the public has shown a sustained interest.

The work was done in collaboration between the Centers for Disease Control and Prevention (CDC), Atlanta, GA, and the Centre International de Recherches Médicales de Franceville (CIRMF) and the Institut de Recherche pour le Développement, Franceville, Gabon.

“Identifying Marburg infection in the African fruit bats brings us one step closer to understanding this deadly disease,” says Dr. Eric Leroy of CIRMF, corresponding author on the paper.

Marburg virus and the related Ebola virus have caused large outbreaks with high case fatalities (80-90%) in humans and great apes. No vaccine or drug therapy is available presently. The paper reports detection of viral RNA from four out of 283 *R. aegyptiacus* bats in a collection of

over 1100 bats tested, representing 10 species. Interestingly, 29 of 242 *R. aegyptiacus* bats also tested serologically positive for Marburg virus as evidenced by the presence of IgG antibodies in bat sera. Neither Marburg virus RNA nor specific antibody were detected in any of the other species of bats tested. All bats were trapped near caves in 2005 and 2006 in Gabon and the Republic of Congo. Genetic sequences obtained from the infected bats in this study are unique compared to other known Marburg virus sequences. *R. aegyptiacus* is widely distributed across sub-Saharan Africa.

“From a public health perspective, this discovery offers us new insight into the transmission of Marburg virus and potentially other filoviruses,” says Dr. Jonathan Towner, senior microbiologist at the CDC and lead author on the publication. The publication coincides with recent reports of Marburg infection among Ugandan miners.

Source: Public Library of Science

Citation: Scientists detect presence of marburg virus in african fruit bats (2007, August 22)
retrieved 27 April 2024 from
<https://phys.org/news/2007-08-scientists-presence-marburg-virus-african.html>

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