

New coronavirus emerges from bats in China, devastates young swine

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Horseshoe bat. Credit: EcoHealth Alliance

A newly identified coronavirus that killed nearly 25,000 piglets in 2016-17 in China emerged from horseshoe bats near the origin of the severe acute respiratory syndrome coronavirus (SARS-CoV), which

emerged in 2002 in the same bat species. The new virus is named swine acute diarrhea syndrome coronavirus (SADS-CoV). It does not appear to infect people, unlike SARS-CoV which infected more than 8,000 people and killed 774. No SARS-CoV cases have been identified since 2004. The study investigators identified SADS-CoV on four pig farms in China's Guangdong Province. The work was a collaboration among scientists from EcoHealth Alliance, Duke-NUS Medical School, Wuhan Institute of Virology and other organizations, and was funded by the National Institute of Allergy and Infectious Diseases, part of the National Institutes of Health. The research is published in the journal *Nature*.

The researchers say the finding is an important reminder that identifying new viruses in animals and quickly determining their potential to infect people is a key way to reduce global health threats.

SADS-CoV began killing piglets on a farm near Foshan in Guangdong Province in late October 2016. Investigators initially suspected porcine epidemic diarrhea virus (PEDV) as the cause. PEDV is a type of coronavirus common to swine that had been identified at the Foshan farm. Detection of PEDV ceased by mid-January 2017, yet piglets continued to die, suggesting a different cause. Scientists say separating sick sows and piglets from the rest of the herd helped stop the outbreak of SADS-CoV by May 2017.

Investigators confirmed the connection of SADS-CoV to bats by identifying the [new virus](#) in the small intestine of [piglets](#) from the outbreak. They then determined that the genetic sequence of SADS-CoV is similar to that of a bat coronavirus discovered in 2007 and looked for evidence of SADS-CoV in bat specimens collected from 2013 to 2016 in Guangdong Province. The new [virus](#) appeared in 71 of 596 specimens (11.9 percent).



Researchers preparing to locate bats in a Chinese cave. Credit: EcoHealth Alliance

The researchers also tested 35 farm workers who had close contact with sick pigs, none of whom tested positive for SARS-CoV.

Currently six coronaviruses are known to cause disease in people, but so far only two of them—SARS-CoV and Middle East Respiratory Syndrome coronavirus—have caused large outbreaks of fatal illness in people.

More information: Peng Zhou et al, Fatal swine acute diarrhoea syndrome caused by an HKU2-related coronavirus of bat origin, *Nature*

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