



Where did the pandemic start? Anywhere but here, argue papers by Chinese scientists 18 Aug 2022



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When Alice Hughes downloaded a preprint from the server Research Square in September 2021, she could hardly believe her eyes. The study **described a massive effort to survey bat viruses in China**, in search of clues to the origins of the COVID-19 pandemic. **A team of 21 researchers from the country's leading academic institutions had trapped more than 17,000 bats, from the subtropical south to the frigid northeast, and tested them for relatives of SARS-CoV-2.**

**The number they found: zero.**

**The authors acknowledged this was a surprising result.** But they concluded relatives of SARS-CoV-2 are “extremely rare” in China and suggested that to pinpoint the pandemic's roots, “extensive” bat surveys should take place abroad, in the Indochina Peninsula.

“I don’t believe it for a second,” says Hughes, a conservation biologist who’s now at Hong Kong University. Between May 2019 and November 2020, she had done her own survey of 342 bats in the Xishuangbanna Tropical Botanical Garden, a branch of the Chinese Academy of Sciences (CAS) in Yunnan province where she worked at the time. As her team reported in *Cell* in June 2021, it found four viruses related to SARS-CoV-2 in the garden, which is about three times the size of New York City’s Central Park.

The new study had sampled bats near that same location, at an abandoned mine that had yielded another close SARS-CoV-2 relative in 2013, and at other sites in nearly half of China’s 31 provinces. And yet the only thing researchers found were viruses close to SARS-CoV-1, which caused the outbreak of severe acute respiratory syndrome 2 decades ago.

But the paper meshed with a growing political reality in China. From the start of the pandemic, the Chinese government—**like many foreign researchers**—has vigorously rejected the idea that SARS-CoV-2 somehow originated in the Wuhan Institute of Virology (WIV) and escaped. But **over the past 2 years**, it has also started to push back against what many regard as the only plausible alternative scenario: The pandemic started in China with a virus that naturally jumped from bats to an “intermediate” species and then to humans—most likely at the Huanan Seafood Market in Wuhan.

Beijing was open to the idea at first. But today it points to myriad ways SARS-CoV-2 could have arrived in Wuhan from abroad, borne by contaminated frozen food or infected foreigners—perhaps at the Military World Games in Wuhan, in October 2019—or **released accidentally by a U.S. military lab located more than 12,000 kilometers from Wuhan**. Its goal is to avoid being blamed for the pandemic in any way, says Filippa Lentzos, a sociologist at King’s College London who studies biological threats and health security. “China just doesn’t want to look bad,”

The idea of a pandemic origin outside China is preposterous to many scientists, regardless of their position on whether the virus started with a lab leak or a natural jump from animals. There's simply no way SARS-CoV-2 could have come from some foreign place to Wuhan and triggered an explosive outbreak there without first racing through humans at the site of its origin. "The idea that the pandemic didn't originate in China is inconsistent with so many other things," says Jesse Bloom, a virologist at the Fred Hutchinson Cancer Research Center who has argued for more intensive studies of the WIV lab accident scenario. "When you eliminate the absurd, it's Wuhan," says virologist Gregory Towers of University College London, who leans toward a natural origin.

But a preprint from China published a day earlier by Gao and many co-authors from CCDC reached a starkly different conclusion. The study analyzed more than 1000 environmental samples from the Huanan market and found SARS-CoV-2 in 73 of them, indicating the virus was in the sewer, on the ground, and in “containers,” some of which Worobey suspects may have been cages that held mammals, based on their location.

In a so-called metagenomic analysis, the researchers also found several samples had a blend of viral and human RNA, “which highly suggests the SARS-CoV-2 might have derived from *Homo sapiens*” in the market, the authors wrote. In other words, humans didn’t catch SARS-CoV-2 from animals at the market. Instead, people might have brought it to the market from elsewhere.