

**From:** Fauci, Anthony (NIH/NIAID) [E]  
**Sent:** Sat, 1 Feb 2020 02:46:21 +0000  
**To:** Mascola, John (NIH/VRC) [E]  
**Subject:** FW: Science: Mining coronavirus genomes for clues to the outbreak's origins

Here is the Jon Cohen article.

---

**From:** Folkers, Greg (NIH/NIAID) [E] (b) (6)  
**Sent:** Friday, January 31, 2020 8:43 PM  
**Subject:** Science: Mining coronavirus genomes for clues to the outbreak's origins



As part of a long-running effort to see what viruses bats harbor, researchers in China collect one from a cave in Guandong.  
EcoHealth Alliance

## Mining coronavirus genomes for clues to the outbreak's origins

By [Jon Cohen](#) Jan. 31, 2020 , 6:20 PM

attaaagggtt tataccttcc caggttaacaa accaaccaac ttctgatctc ttgtatgctt ...

That string of apparent gibberish is anything but: It's a snippet of a DNA sequence from the viral pathogen, dubbed 2019 novel coronavirus (2019-nCoV), that is overwhelming China and frightening the entire world. Scientists are publicly sharing an ever-growing number of full sequences of the virus from patients—53 at last count in the [Global Initiative on Sharing All Influenza Data](#) database. These viral genomes are being intensely studied to try to understand the origin of 2019-nCoV and how it fits on the family tree of related viruses found in bats and other species. They have also given glimpses into what this newly discovered virus [physically looks like](#), [how it's changing](#), and [how it might be stopped](#).

“One of the biggest takeaway messages [from the viral sequences] is that there was a single introduction into humans and then human-to-human spread,” says Trevor Bedford, a bioinformatics specialist at the University of Washington, Seattle. The role of Huanan Seafood Wholesale Market in Wuhan, China, in spreading 2019-nCoV remains murky, though such sequencing, combined with sampling the market's environment for the presence of the virus, is clarifying that it indeed had an