

AAAS

Become a Member

Log InScienceMag.org

Science

Contents

News

Careers

Journals

Click here for free access to our latest coronavirus/COVID-19 research, commentary, and news.

Advertisement



The Huanan seafood market in Wuhan has been widely considered the source of the outbreak of a novel coronavirus. But the virus may have infected people elsewhere first. REUTERS

Wuhan seafood market may not be source of novel virus spreading globally

By **Jon Cohen** | Jan. 26, 2020 , 11:25 PM

As confirmed cases of a novel virus surge around the world with worrisome speed, all eyes have so far focused on a seafood market in Wuhan, China, as the origin of the outbreak. But a description of the first clinical cases **published in *The Lancet*** on Friday challenges that hypothesis.

The paper, written by a large group of Chinese researchers from several institutions, offers details about the first 41 hospitalized patients who had confirmed infections with what has been dubbed 2019 novel coronavirus (2019-nCoV). In the earliest case, the patient became ill on 1 December 2019 and had no reported link to the seafood market, the authors report. “No epidemiological link was found between the first patient and later cases,” they state. Their data also show that, in total, 13 of the 41 cases had no link to the marketplace. “That’s a big number, 13, with no link,” says Daniel Lucey, an infectious disease specialist at Georgetown University.

Earlier [reports from Chinese health authorities](#) and the [World Health Organization](#) had said the first patient had onset of symptoms on 8 December 2019—and those reports simply said “most” cases had links to the seafood market, which was closed on 1 January.

Related

[Scientists are moving at record speed to create new coronavirus vaccines—but they may come too late](#)



[Can an anti-HIV combination or other existing drugs outwit the new coronavirus?](#)



[See all of our recent coverage of the coronavirus outbreak](#)

Lucey says if the new data are accurate, the first human infections must have occurred in November 2019—if not earlier—because there is an incubation time between infection and symptoms surfacing. If so, the virus possibly spread silently between people in Wuhan—and perhaps elsewhere—before the cluster of cases from the city’s now-infamous Huanan Seafood Wholesale Market was discovered in late December. “The virus came into that marketplace before it came out of that marketplace,” Lucey asserts.

SIGN UP FOR OUR DAILY NEWSLETTER

Get more great content like this delivered right to you!

The Lancet paper’s data also raise questions about the accuracy of the initial information China

provided, Lucey says. At the beginning of the outbreak, the main official source of public information were notices from the Wuhan Municipal Health Commission. Its [notices on 11 January](#) started to refer to the 41 patients as the only confirmed cases and the count [remained the same until 18 January](#). The notices did not state that the seafood market was the source, but they repeatedly noted that there was no evidence of human-to-human transmission and that most cases linked to the market. Because the Wuhan Municipal Health Commission noted that diagnostic tests had confirmed these 41 cases by 10 January and officials presumably knew the case histories of each patient, “China must have realized the epidemic did not originate in that Wuhan Huanan seafood market,” Lucey tells *ScienceInsider*. (Lucey also spoke about his concerns in an interview [published online yesterday by Science Speaks](#), a project of the Infectious Disease Society of America.)

Kristian Andersen, an evolutionary biologist at the Scripps Research Institute who has analyzed sequences of 2019-nCoV to try to clarify its origin, says the 1 December timing of the first confirmed case was “an interesting tidbit” in *The Lancet* paper. “The scenario of somebody being infected outside the market and then later bringing it to the market is one of the three scenarios we have considered that is still consistent with the data,” he says. “It’s entirely plausible given our current data and knowledge.” The other two scenarios are that the origin was a group of infected animals or a single animal that came into that marketplace.

Andersen posted [his analysis of 27 available genomes of 2019-nCoV](#) on 25 January on a virology research website. It suggests they had a “most recent common ancestor”—meaning a common source—as early as 1 October 2019.

Bin Cao of Capital Medical University, the corresponding author of *The Lancet* article and a pulmonary specialist, wrote in an email to *ScienceInsider* that he and his co-authors “appreciate the criticism” from Lucey.

“Now It seems clear that [the] seafood market is not the only origin of the virus,” he wrote. “But to be honest, we still do not know where the virus came from now.”

Lucey notes that the discovery of the coronavirus that causes Middle East respiratory syndrome, a sometimes fatal disease that occurs sporadically, came from a patient in Saudi Arabia in June 2012, although [later studies traced it back](#) to an earlier hospital outbreak of unexplained pneumonia in Jordan in April 2012. Stored samples from two people who died in Jordan confirmed they had been infected with the virus. Retrospective analyses of blood samples in China from people and animals—including vendors from other animal markets—may reveal a clear picture of where the 2019-nCoV originated, he suggests. “There might be a clear signal among the noise,” he says.

Posted in: [Asia/Pacific](#), [Health](#), [Coronavirus](#)
doi:10.1126/science.abb0611

Jon Cohen

Jon is a staff writer for *Science*.

[✉ Email Jon](#) | [✉ Twitter](#)



More from News

South Africa flattens its coronavirus curve—and considers how to ease restrictions



Science's extensive COVID-19 coverage is free to all readers. To support our nonprofit science journalism, please [make a tax-deductible gift today](#).

Got a tip?

How to contact the news team

Advertisement

Advertisement

Related Jobs

Research Scientist-PK/PD

Lilly
Indianapolis, Indiana

Postdoctoral Fellow

University of Maryland School of Medicine
University of Maryland, School of Medicine

Scientist, Protein Chemistry

Tectonic Therapeutic
Cambridge / Boston, MA

[MORE JOBS](#)

Latest News

Trending

1. [For survivors of severe COVID-19, beating the virus is just the beginning](#)
2. [Atomic bomb dating reveals true age of whale sharks](#)

- 3. 'We will have many body bags.' WHO chief responds to Trump's criticisms
- 4. Former FDA leaders decry emergency authorization of malaria drugs for coronavirus
- 5. Coronavirus cases have dropped sharply in South Korea. What's the secret to its success?

Most Read

- 1. You may be able to spread coronavirus just by breathing, new report finds
- 2. For survivors of severe COVID-19, beating the virus is just the beginning
- 3. Coronavirus cases have dropped sharply in South Korea. What's the secret to its success?
- 4. 1.3 billion people. A 21-day lockdown. Can India curb the coronavirus?
- 5. WHO launches global megatrial of the four most promising coronavirus treatments

Sifter

Flamingos have friends, enemies, and even romantic trysts, 5-year study reveals

By Amanda Heidt | Apr. 14, 2020



This is the brightest supernova ever seen

By Amanda Heidt | Apr. 13, 2020



Longest deep-sea animal spotted off Australian coast

By Rodrigo Pérez Ortega | Apr. 10, 2020



Love the smell of wet earth after rain? So do these strange

creatures

By Amanda Heidt | Apr. 9, 2020



Great Barrier Reef experiences massive coral bleaching

By Jeffrey Brainard | Apr. 8, 2020



More Sifter



Read the Latest Issue of Science

10 April 2020

Vol 368, Issue 6487



Table of Contents

GENETICS

Rethinking anorexia

ECOLOGY

Help for a wheat fungal disease comes from a surprising source

MEDICINE/DISEASES

United States aims to curb vaccination injury payouts

EUROPEAN NEWS

European Union gets in the venture capital game

MEDICINE/DISEASES

NAS letter suggests ‘normal breathing’ can expel coronavirus

MEDICINE/DISEASES

Can prophylactic drugs keep fragile health systems running?

Get Our E-Alerts

Receive emails from *Science*. [See full list](#)

- ☐ *Science* Table of Contents
- ☐ *Science* Daily News
- ☐ Weekly News Roundup
- ☐ *Science* Editor's Choice
- ☐ First Release Notification
- ☐ *Science* Careers Job Seeker

Spain

☐ I also wish to receive emails from AAAS/*Science* and *Science* advertisers, including information on products, services, and special offers which may include but are not limited to news, career information, & upcoming events.

Required fields are indicated by an asterisk (*)

About Us

- Journals
- News from Science
- Leadership
- Team Members
- Work at AAAS

For Advertisers

- Advertising Kits
- Awards and Prizes
- Custom Publishing
- Webinars

For Authors

- Submit
- Information for Authors
- Editorial Policies

For Librarians

- Manage Your Institutional Subscription
- Information for Librarians
- Request a Quote
- FAQs

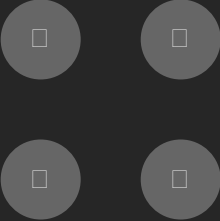
Related Sites

AAAS.org

EurekAlert!
Science in the Classroom
Science Magazine Japanese

Help

Access and Subscriptions
Order a Single Issue
Reprints and Permissions
Contact Us
Accessibility



© 2020 American Association for the Advancement of Science. All rights Reserved. AAAS is a partner of HINARI, AGORA, OARE, CHORUS, CLOCKSS, CrossRef and COUNTER.

Terms of Service
Privacy Policy
Contact AAAS