

NATURE BRIEFING | 21 March 2023

Daily briefing: COVID origin linked to raccoon dogs

New evidence supports the hypothesis that SARS-CoV-2 first spilled over from animals to humans. Plus, researchers hunt for toxics after the Ohio train accident, and how to support scientists with social anxiety.

By [Flora Graham](#)

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Two raccoon dogs in a Chinese market. This species' DNA was found in positive COVID swabs taken from the Huanan market from where COVID is thought to have spread. Credit: Greg Baker/AFP via Getty

COVID origin linked to raccoon dogs

There's more evidence supporting the hypothesis that SARS-CoV-2 first spilled over from animals to humans at a market in Wuhan, China. An analysis looked at publicly posted genetic

data from COVID-positive swabs taken from drains, stalls and the ground at the market in early 2020. [Six samples contained DNA from racoon dogs \(*Nyctereutes procyonoides*\)](#), which can catch SARS-CoV-2 and spread it to others of their species, even if they don't have symptoms. "The most logical hypothesis is that raccoon dogs were infected by SARS-CoV-2 and shed the virus," says virologist Leo Poon. It's not the final word on the pandemic's origin, because the study doesn't confirm whether the animals were actually infected or whether viral RNA in the swabs came from other sources.

[Nature | 7 min read](#)

Reference: [Zenodo preprint](#) (not peer reviewed)

Hunt for toxics after Ohio train accident

Independent scientists found elevated amounts of the irritant acrolein and similar compounds in the air at East Palestine, Ohio, where a train derailment spilled millions of litres of industrial chemicals last month. Some [residents have had headaches and breathing difficulties, leading them to question government reports](#) that chemical levels are low and

safe. Many of the team's other measurements agree with official figures – but if the elevated acrolein levels persist, they could affect residents' health.

[Nature | 6 min read](#)

How to defuse the climate time bomb

Global temperatures will reach 1.5 °C above pre-industrial levels in the early 2030s, estimates a new report by the Intergovernmental Panel on Climate Change (IPCC) that United Nations secretary-general António Guterres called a “how-to guide to defuse the climate time bomb”. To stop warming from crossing a dangerous threshold, industrialized nations will need to [cut greenhouse-gas emissions in half by 2030 and achieve net zero by the early 2050s](#). Cost-effective ways of doing this, such as solar and wind energy, already exist. The report also suggests that large-scale carbon dioxide removal will be needed, giving some scientists doubts because the technology still barely exists.

[BBC | 5 min read](#) & [The New York Times | 8 min read](#)

Reference: [IPCC report](#)

Features & opinion

[Latin America's genomics is under threat](#)

In the early 2000s, scientists in Mexico and Brazil led the region's biotechnology revolution. Buoyed by unprecedented amounts of funding, they sequenced the genomes of the nitrogen-fixing bacterium *Rhizobium etli* and the bacterial plant pathogen *Xylella fastidiosa*. [Now, the genomics community in South and Central America is at risk of floundering](#): investment in science has stagnated or is being cut, and researchers are leaving their countries to find more lucrative opportunities elsewhere.

[Nature](#) | [11 min read](#)

[How to support scientists with social anxiety](#)

“Those of us who falter in conversation, avoid social events and look at the ceiling when we speak tend not to give good first impressions,” says ecologist Lydia Wong, who has had

social anxiety since childhood. [To help those with the condition](#), consider alternative ways to have informal meetings – during a walk or in a quiet room instead of in a café – and offering non-verbal ways to submit questions during conferences. “At times, my anxiety has left me feeling inadequate, misunderstood, isolated and uncertain about pursuing a career in academia. On the basis of conversations with other students, I don’t think my experiences are uncommon.”

[Nature | 6 min read](#)

Should *Nature* endorse political candidates?

Nature’s endorsement in the 2020 US presidential elections led many supporters of former president Donald Trump to lose trust in science, and in *Nature*. A study of 4,260 adults suggests that, following the journal’s endorsement of Joe Biden, Trump supporters were less likely to trust *Nature*’s reporting on issues such as COVID-19 vaccines. The findings highlight the potential costs of making such endorsements,

but inaction has costs too, [argues a *Nature* editorial](#). “When individuals seeking office have a track record of causing harm, when they are transparently dismissive of facts and integrity, when they threaten scholarly autonomy, and when they are disdainful of cooperation and consensus, it becomes important to speak up.”

[Nature | 5 min read](#)

Quote of the day

“Most of the time, if you speak up, at least 30% of the people in the room will have the same question and weren’t brave enough to ask it.”

Nicola Fox, who as NASA’s new science chief will oversee more than 100 space missions, says there are no stupid questions.

[\(The Guardian | 5 min read\)](#)

doi: <https://doi.org/10.1038/d41586-023-00863-y>

Today, I'm asking whoever has [the head of the smalltooth sand tiger shark \(Odontaspis ferox\) that washed up on a beach in Hampshire, UK](#), to please return it. Researchers really want to study it to figure out what this warm-water species was doing so far north. In the words of BBC broadcaster Dan Snow: "If people want the jaw for their clubhouse or whatever, they can keep it. But if they can just let the scientists have a good look at it first, that would be really community-spirited of them."

Tell me what reward you would offer for the safe return of a rare shark's head, plus any other feedback on this newsletter, at briefing@nature.com.

Thanks for reading,

[Katrina Krämer](#) associate editor, [Nature Briefing](#)

With contributions by Anne Marie Conlon

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