

News in focus

disease or is much more transmissible than currently circulating variants.

Omicron not only contained many mutations, but also rapidly became a dominant variant in the population, suggesting it was spreading faster than, and out-competing, other variants in the community. The WHO designated Omicron a variant of concern within days of South African researchers alerting the international community to the variant's rapid spread. But that came nearly three weeks after the first Omicron sequence was deposited into GISAID.

Making connections

The Delta variant was designated a variant of concern in May 2021, seven months after the first known sample was collected in India. The first sign that there could be a concerning new variant around was a rapid rise in case numbers, hospitalizations and deaths in India at the start of 2021. "It's connecting case counts and genetics as much as you can," says Hill.

So far, most of the sequences that China has submitted to GISAID since the beginning

of December belong to Omicron subvariants already in circulation elsewhere. There are five new lineages – descendants of those subvariants – but these are unlikely to gain a foothold outside China, because of pre-existing immunity.

But the decreased population-wide surveillance outside China makes it more likely that a variant that emerges in China might initially go undetected, says Hill.

Sintchenko says there are also concerns that China is not sharing enough of its sequences. At a 3 January meeting of the WHO's Technical Advisory Group on Virus Evolution, scientists from the Chinese Center for Disease Control and Prevention presented data based on more than 2,000 genomes collected and sequenced since 1 December 2022. But only around one-quarter of that number – 564 sequences – has been uploaded to GISAID's database over the same period.

1. Cele, S. et al. *Cell Host Microbe* **30**, 154–162 (2022).
2. Chaguza, C. et al. Preprint at medRxiv <https://doi.org/10.1101/2022.06.29.22276868> (2022).
3. Brito, A. F. et al. *Nature Commun.* **13**, 7003 (2022).

additional two years – represent "the kind of punishment normally applied only to the most egregious wrongdoings", including scientific misconduct and sexual harassment, the petitioners wrote.

In the absence of compelling evidence to the contrary, the scientists ask that UCLA rescind the disciplinary actions and fully compensate Amarasekare.

Officials at UCLA say that the university "supports freedom of expression and does not condone retaliation of any sort". They declined to discuss the accusations against Amarasekare or the statements of those who support her, saying the university is "bound to respect the privacy of the numerous individuals involved in this matter". Amarasekare also declined to comment.

A confusing decision

Amarasekare's colleagues told *Nature* that she is the rare ecologist whose research spans theoretical, computational and experimental realms. One project in her laboratory that touches on all of these areas focuses on the impact of climate change on insect communities. "She's really several years ahead of everybody else," says Andy Dobson, an ecologist at Princeton University in New Jersey who helped to lead the petition. Dobson has written letters to support Amarasekare's various applications for promotion at UCLA and has been baffled by the university's decisions. "She complained, and most of what's happened seems to be a reaction against that," he says.

Nature spoke to several former students and faculty members who defended Amarasekare in administrative hearings in September 2021. Although no one knew the specific details of the charges against her, they all thought she was targeted for speaking out against what she saw as discrimination in the department. In particular, they said Amarasekare vented about her own experience at UCLA on a departmental e-mail listserve created to discuss issues of racism and discrimination in the aftermath of the killing of George Floyd, whose death in May 2020 sparked international protests.

"That's why she got into trouble. She ended up criticizing pretty much the entire department – with good reason," says Marcel Vaz, an ecologist at Wilkes University in Wilkes-Barre, Pennsylvania, who was a graduate student in the department at the time. He and other students came forward to support her. "We demanded some explanation," Vaz says, "but we never got any feedback."

Peter Kareiva, a former UCLA faculty member who spoke on Amarasekare's behalf during the administrative proceedings, calls her a brilliant scientist as well as a terrific teacher and student mentor. Kareiva witnessed Amarasekare raise uncomfortable issues and challenge internal policies in faculty meetings.

SCIENTISTS CALL ON UCLA TO REVERSE ECOLOGIST'S SUSPENSION

Sanctions on award-winning researcher Priyanga Amarasekare have baffled supporters.

By Jeff Tollefson

In April last year, the Ecological Society of America awarded Priyanga Amarasekare one of the highest honours in the field of ecology: the Robert H. MacArthur Award. A little over two months later, the University of California, Los Angeles (UCLA), placed Amarasekare on a one-year suspension without pay or benefits, and forbade her from accessing her laboratory, maintaining her insect colonies, managing her grants or contacting students. Now scientists from around the world, who call Amarasekare a "highly distinguished ecologist", "a committed teacher and outstanding mentor" and a "tireless advocate for under-represented groups", are calling for her reinstatement.

The precise allegations that led to her suspension are unknown. UCLA has declined to release them, and barred Amarasekare from discussing the matter publicly. But longstanding tensions between Amarasekare and the university are no secret. Originally from Sri Lanka and one of two women of colour who

have tenure in UCLA's ecology and evolution department, Amarasekare has previously accused the university of discrimination for repeatedly denying her promotions that were granted to colleagues. Former students and faculty members who are familiar with the situation think that Amarasekare's suspension was retaliation for speaking out.

"She complained, and most of what's happened seems to be a reaction against that."

Some 315 scientists have raised concerns about her suspension in a petition that was delivered to the university on 23 January, arguing that Amarasekare "has long been denied significant advancement within her department, out of keeping with her contributions to the field". Moreover, the sanctions levied against Amarasekare – including the one-year suspension and a 20% salary reduction for an

He says she might have made mistakes in terms of “facilitating harmony” among fellow faculty members, but that her goal was always to improve the department.

“I am still incredulous by the punishment levied,” says Kareiva, who now serves as president of the Aquarium of the Pacific in Long Beach, California.

It is unclear what happens next, but scientists contacted by *Nature* are concerned about the impact of the suspension on Amarasekare’s

current students, the disruption of her federally funded research and the potentially irretrievable loss of time-sensitive experiments that could provide insights into the ecological impacts of climate change.

As the recipient of the MacArthur award, Amarasekare is expected to discuss this research when she delivers her keynote address at the Ecological Society of America’s annual meeting in Portland, Oregon, in August.

Over the past year, H5N1 has shown an increasing ability to jump from birds to mammals. In the United States, infections have been found in about a dozen species, including raccoons, foxes, seals and grizzly bears.

Until this particular outbreak, all mammalian infections could be attributed to direct contact with virus-contaminated material, says Hualan Chen, a virologist at the Harbin Veterinary Research Institute in China. For example, animals that ingest wild-bird droppings, or that prey on infected animals, can develop the disease. But its spread between mammals “implies that this H5N1 virus may pose a higher risk to public health”, Chen says.

During the first week of October 2022, workers on the affected mink farm noticed that the mink’s mortality rate had increased from a baseline of 0.25% per week to 0.77%, prompting tests on the affected animals for the H5N1 and SARS-CoV-2 viruses. The animals tested positive for H5N1. In the following weeks, more animals fell sick, and the disease seemed to spread from ‘hotspots’ of two to four pens, in which all animals became infected and died.

Workers were forced to cull all 51,986 mink on the farm. Eleven farm workers came into contact with the infected mink, but all tested negative for H5N1.

“This species could serve as a potential mixing vessel for the interspecies transmission among birds, mammals and human,” the report’s authors write. “It is necessary to strengthen the culture of biosafety and biosecurity in this farming system and promote the implementation of ad hoc surveillance programs for influenza A viruses and other zoonotic pathogens.”

BIRD FLU OUTBREAK IN MINK SPARKS CONCERN ABOUT SPREAD IN PEOPLE

A variant of H5N1 influenza that can spread between mammals could pose an increased risk.

By Saima May Sidik

An outbreak of avian influenza on a mink farm in Spain provides the strongest evidence so far that the H5N1 strain of flu can spread from one infected mammal to another.

The outbreak of H5N1 flu, reported in *Eurosurveillance* on 19 January, occurred on an American mink (*Neovison vison*) farm in Carral in October 2022 (M. Agüero *et al. Eurosurveillance* 28, 2300001; 2023).

Genetic sequencing showed that the animals were infected with a new variant of H5N1 that includes genetic material from a strain found in seagulls, as well as a genetic change known to increase the ability of some animal-flu viruses to reproduce in mammals.

The new variant puts bird flu in “uncharted territory”, says Wendy Puryear, a virologist at Tufts University in Medford, Massachusetts. Researchers have warned that, unless careful precautions are taken, the disease might eventually spread among people.

Preventing spread

Measures taken to prevent the new strain from spreading beyond the farm seem to have been “vigorous, comprehensive and successful”, says infectious-disease specialist William Schaffner at Vanderbilt University Medical Center in Nashville, Tennessee.

But Puryear thinks that because the variant contains genetic material from gull flu, it’s likely that at least some of its genetic changes arose in gulls before it entered the mink farm. This means that a strain containing those mutations is probably still circulating in the bird population. But for human populations, the outlook is still good: if the new strain did start to infect people, health authorities could probably produce a vaccine quickly, and the antiviral drug Tamiflu (oseltamivir) can reduce the severity of the disease.

The potential risk to wild animals is greater. Bird flu has consistently caused high levels of sickness and death among wild birds and mammals over the past year, and how the new variant will affect that trend remains to be seen. “We just simply don’t know,” says Puryear.



A new variant of H5N1 influenza had been spreading among animals on a mink farm.