

Animals should not pose coronavirus threat to pet owners, farmers

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Despite a tiger in the Bronx Zoo recently testing positive for COVID-19, pet owners and farmers can rest easy about the potential for domestic animals to be a source for the novel coronavirus, according to a Penn State expert. Credit: StockSnap via Pixabay

Farmers and pet owners who may be concerned that they can contract COVID-19 from domestic animals—such as livestock, dogs and cats—have little to worry about, according to a virologist in Penn State's College of Agricultural Sciences.

Public concerns arose after the Bronx Zoo announced last week that a tiger had tested positive for the novel [coronavirus](#). But Suresh Kuchipudi, clinical professor of veterinary and biomedical sciences, pointed out that the tiger is thought to have been infected by an asymptomatic zoo employee who since has tested positive for COVID-19.

"There is no evidence to date that animals, especially pets and other domesticated animals, are a source of the novel coronavirus," said Kuchipudi, who also is associate director of Penn State's Animal Diagnostic Laboratory.

There have been limited reports of the novel coronavirus—known as SARS-CoV-2—infesting dogs in Asia, but the Bronx Zoo tiger is the only such positive test result reported to date by the U.S. Department of Agriculture's National Veterinary Services Laboratory, he noted.

"The few reports of animals testing positive are believed to be cases where the animals got the virus from close contact with infected humans, and so far there is no evidence to believe that animals can transmit it back to people," he said.

This, despite the fact that the COVID-19 virus is thought to have originated in bats and to have evolved to infect and spread among humans, Kuchipudi explained.

"RNA viruses, such as coronaviruses and influenza viruses, do go through mutations when reproducing, and these mutations can be cumulative. This evolution and the ability of viruses to jump from an animal reservoir into humans generally takes a very long period of time," he said.

Kuchipudi pointed out that coronaviruses in one host, such as human coronaviruses or pig coronaviruses, are adapted to efficiently replicate and transmit among members of that species. The zoonotic spillover events occur when a virus from one host species is mutated, has a chance to infect a new host and then adapts in the new host. This adaptation needs sustained transmission among the members of the new species.

"The COVID-19 virus is a human coronavirus that is infecting and spreading efficiently among humans," he said. "It is believed that it took many years for this virus to emerge from its parent virus in a bat."

Although there have been a few instances of COVID-19 virus infecting some animals, he said, this still is not very widespread, and these few cases are linked to the animals' proximity to an

infected human.

"Based on this, it is safe to assume that the animal cases are just opportunistic infections and that the virus does not replicate very efficiently in animals, which means that the animals likely are not a source of infection to humans," Kuchipudi said.

"So the bottom line, based on the best scientific information we have, is that there is no need for concern that pets and other [domestic animals](#) will pass this virus to people," he added.

Nevertheless, Kuchipudi cites guidance from USDA's Animal and Plant Health Inspection Service to further reduce any risk to animals or people:

- If you are sick with COVID-19, restrict contact with pets and other animals, just as you would with other people. Although there have been no reports of pets becoming sick with COVID-19 in the United States, it is still recommended that people sick with COVID-19 limit contact with animals until more information is known about the virus. When possible, have another member of your household care for your animals while you are sick. If you must care for your pet or be around animals while you are sick, wash your hands before and after you interact with pets.
- If you think your animal may have the [virus](#), call your veterinary clinic with any questions about your animal's health. To ensure the veterinary clinic is prepared for the household animal, the owner should call ahead and arrange the hospital or clinic visit. Make sure to tell your veterinarian if your animal was exposed to a person sick with COVID-19 and if your animal is showing any signs of illness. Pets have other types of coronaviruses that can make them sick, such as canine and feline coronaviruses. These other coronaviruses cannot infect people and are not related to the current COVID-19 outbreak.
- Although there is no reason at this time to think that any animals, including pets, in the United States might be a source of infection with this new coronavirus, animals can

spread other diseases to people. Therefore, it's always a good idea to practice healthy habits around pets and other [animals](#), such as washing your hands and maintaining good hygiene.

Provided by Pennsylvania State University

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