



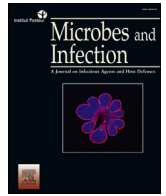
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Letter to the editor

The fate of house cats during the COVID-19 pandemic



Keywords:
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 Abandon

Dear Editor,

Since December 2019, the COVID-19 pandemic has been engulfing the world for more than four months [1]. Under the crisis, people have wondered whether the causative pathogen, coronavirus SARS-CoV-2, can infect pets [2]. Recently, it was reported that cats are susceptible to airborne infection of the virus [3], causing some to worry that they may have the potential to be the intermediate host. If future research proves that the virus can transmit between humans and cats, this may cause widespread panic and motivate people to abandon their cats for the fear of infection.

To investigate whether setting free domestic cats protects people from infection, a computer simulation was created to emulate a small community of human households and cats. A different number of cats were set free during the simulations and the total infected persons were recorded (Supplementary Materials and Methods and Movie). Domestic cats were chosen randomly to be set free, regardless of whether they were infected or not, as simulating people panicking and setting free their cats on a whim.

Supplementary video related to this article can be found at <https://doi.org/10.1016/j.micinf.2020.04.006>. Code for the simulation software can be found at <https://github.com/Phacometer/coronavirus-cat-simulation>.

Analysis of data from two thousand simulations indicates that when a different number of cats were set free, there is a statistically significant difference to the number of people infected. When zero cats were set free, 51 people were infected on average. For one set free, 55 were infected. For five free, 62 were infected. For ten free, 76 were infected. This indicates that the fear over domestic cats may be unnecessary, as abandoning domestic cats may cause even more people to be infected overall (Fig. S1).

During the pandemic, it is necessary to surveil the susceptibility of viruses in pets. However, managing pets does not mean abandoning them. Domestic animals have adapted with humans for millennia and become companion animals with symbolic value [4]. The better strategy for controlling the spread of the virus is to

quarantine pets at home [5]. Meanwhile, the media could help stop rumors by guiding the public with instructive scientific results.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.micinf.2020.04.006>.

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