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Subject: PRO/AH/EDR> COVID-19 update (29): animal, peridomestic wildlife, experimental infection

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CORONAVIRUS DISEASE 2019 UPDATE (29): ANIMAL, PERIDOMESTIC WILDLIFE, EXPERIMENTAL INFECTION

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A ProMED-mail post

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Date: Thu 21 Jan 2021

Source: bioRxiv [edited]

<https://www.biorxiv.org/content/10.1101/2021.01.21.427629v1.full.pdf>

ref: Bosco-Lauth AM, Root JJ, Porter S, et al. Survey of peridomestic mammal susceptibility to SARS-CoV-2 infection. bioRxiv 2021.01.21.427629

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Abstract

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Wild animals have been implicated as the origin of SARS-CoV-2, but it is largely unknown how the virus affects most wildlife species and if wildlife could ultimately serve as a reservoir for maintaining the virus outside the human population. Here we show that several common peridomestic species, including deer mice, bushy-tailed woodrats, and striped skunks, are susceptible to infection and can shed the virus in respiratory secretions. In contrast, we demonstrate that cottontail rabbits, fox squirrels, Wyoming ground squirrels, black-tailed prairie dogs, house mice, and raccoons are not susceptible to SARS-CoV-2 infection. Our work expands upon the existing knowledge base of susceptible species and provides evidence that human-wildlife interactions could result in continued transmission of SARS-CoV-2.

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[The full pre-print can be accessed at the source URL above.]

This survey above adds to the experimental studies that tested susceptibility of mammals to SARS-CoV-2 infection. In this case, the researchers tested North American animals that are often exposed to humans. Prior proteomic work and experimental studies showed that carnivores (Order Carnivora) and rodents (Order Rodentia) are high risk groups. They found 2 rodents of the Subfamily Neotominae (deer mouse and bushy-tailed woodrat) and one mustelid (striped skunk) to be susceptible to experimental inoculation of high doses of SARS-CoV-2 and can shed infectious virus. Other rodents tested (2 squirrels and the house mouse), a carnivore (the raccoon, a procyonid), and a wild lagomorph (cottontail rabbit) were not susceptible to this experimental infection. - Mod.PMB]

## See Also

COVID-19 update (27): animal, China, origin, WHO experts mission 20210121.8124456

COVID-19 update (20): animal, deer, experimental infection 20210116.8108967

COVID-19 update (13): animal, USA, zoo, gorilla 20210112.8095510

COVID-19 update (07): animal, China, origin, WHO experts mission  
2020

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COVID-19 update (557): animal, Slovenia (SA) ferret, OIE 20201226.8048809

COVID-19 update (552): USA, animal, cat, dog, snow leopard, OIE 20201223.8042405

COVID-19 update (551): animal, pig, research, experimental infection 20201223.8041877

COVID-19 update (536): animal, USA (UT) wild mink, 1st case 20201213.8015608

COVID-19 update (525): Spain, animal, zoo, lion, human 20201208.8002466

COVID-19 update (469): USA (TN) zoo, tiger 20201104.7915683

COVID-19 update (356): South Africa (GT) animal, puma, zoo, OIE 20200813.7673666

COVID-19 update (143): USA (NY) animal, zoo, tiger, lion, tests 20200430.7284183

COVID-19 update (141): India, animal, wild tiger, susp, clarification, RFI 20200430.7281768

COVID-19 update (138): India, animal, wild tiger, fatal 20200428.7275765

COVID-19 update (135): Netherlands (NB) animal, farmed mink 20200427.7272289

COVID-19 update (130): USA (NY) zoo, tiger, lion, new cases 20200425.7266556

COVID-19 update (85): USA (NY) tiger, OIE 20200406.7191480

COVID-19 update (84): USA, tigers 20200406.7191352

COVID-19 update (76): China (HU) animal, cat, owned, stray, seropositive 20200403.7179946

COVID-19 update (75): China (Hong Kong) cat, OIE 20200403.7179945

COVID-19 update (70): China (Hong Kong) cat, pets & stock 20200402.7173286

COVID-19 update (58): Belgium, cat, clinical case, RFI 20200327.7151215

COVID-19 update (57): global, re-using PPE, DR Congo, more countries, WHO 20200327.7149046

COVID-19 update (56): China (Hong Kong) animal, dog, final serology positive 20200326.7146438

COVID-19 update (45): China (Hong Kong) animal, dog, 2nd case PCR positive 20200319.7112693

COVID-19 update (37): China (Hong Kong) animal, dog, prelim. serology negative 20200312.7081842

COVID-19 update (30): China (Hong Kong) dog, susp, serology pending 20200306.7057595

COVID-19 update (25): China (Hong Kong) dog, susp, OIE 20200302.7040373

COVID-19 update (22): companion animals, dog susp, RFI 20200229.7036661

COVID-19 update (17): China, animal reservoir, wildlife trade & consumption 20200225.7024245

COVID-19 update (11): animal reservoir, intermediate hosts, pangolin susp 20200220.7009213

COVID-19 update (08): companion animals, RFI 20200218.7002276

COVID-19 update (06): animal reservoir, intermediate hosts 20200217.6997782

Novel coronavirus (42): China, global, COVID-19, SARS-CoV-2, WHO 20200211.6979942

Novel coronavirus (40): animal reservoir, pangolin poss intermediate host, RFI 20200210.6972104

Novel coronavirus (28): China (HU) animal reservoir 20200201.6943858

Novel coronavirus (22): reservoir suggested, bats 20200129.6930718

Novel coronavirus (20): China, wildlife trade ban 20200127.6922060

Novel coronavirus (18): China (HU) animal reservoir 20200125.6915411  
Novel coronavirus (15): China (HU) wild animal sources 20200123.6909913  
Novel coronavirus (03): China (HU) animal reservoir suggested, RFI 20200114.6887480  
Novel coronavirus (01): China (HU) WHO, phylogenetic tree 20200112.6885385  
Undiagnosed pneumonia - China (HU) (07): official confirmation of novel coronavirus 20200108.6878869  
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