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INTERNATIONAL SOCIETY FOR INFECTIOUS DISEASES

Published Date: 2022-09-27 03:17:29 CEST

Subject: PRO/AH/EDR> COVID-19 update (178): animal, Argentina, armadillo

Archive Number: 20220927.8705807

CORONAVIRUS DISEASE 2019 UPDATE (178): ANIMAL, ARGENTINA, ARMADILLO

A ProMED-mail post

<http://www.promedmail.org>

ProMED-mail is a program of the

International Society for Infectious Diseases

<http://www.isid.org>

Date: Tue 23 Aug 2022

Source: BioRxiv [edited]

<https://www.biorxiv.org/content/10.1101/2022.08.23.503528v1>

Citation: Arteaga FL, Nabaes Jodar M, Mondino M, et al. An outbreak of SARS-CoV-2 in big hairy armadillos (*Chaetophractus villosus*) associated with Gamma variant in Argentina three months after being undetectable in humans. bioRxiv 2022.08.23.503528; (preprint; not peer-reviewed)

The present pandemic produced by SARS-CoV-2 and its variants represents an example of the one health concept in which humans and animals are components of the same epidemiologic chain. Animal reservoirs of these viruses are thus the focus of surveillance programs to monitor their circulation and evolution in potentially new hosts and reservoirs. In this work, we report the detection of SARS-CoV-2 Gamma variant infection in 4 specimens of *Chaetophractus villosus* (big hairy armadillo/armadillo peludo) in Argentina. In addition to the finding of a new wildlife species susceptible to SARS-CoV-2 infection, the identification of the Gamma variant 3 months after its last detection in humans is a noteworthy result, raising the question of potential unidentified viral reservoirs.

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[So far, SARS-CoV-2 had been shown to replicate in many mammalian species. Over 40 species have been found to be susceptible to SARS-CoV-2 infection, and natural infections have been documented in at least 24 species of distant mammalian orders, including Primata, Rodentia, Carnivora, and Arthiodactyla. This report adds a different order, Xenarthra.

The 4 animals found infected were born in captivity in April 2021 and kept in an academic facility for research purposes. They were initially tested and found negative for SARS-CoV-2, but in March 2022 they developed respiratory signs and were tested again, being all 4 of them positive. Sequencing indicated a variant that was not the one dominating at the time. The significance of the susceptibility of this group -- that is, host competence and virulence -- should be investigated. It is very important to establish whether armadillos may be suitable compartments where the virus may be maintained and evolve, and then perhaps spill back to

humans or other animals as a new variant, as suggested by molecular evidence for minks and white-tailed deer.- Mod.PMB

ProMED map:

Argentina: <https://promedmail.org/promed-post?place=8705807,4>

See Also

COVID-19 update (177): animal, Switzerland, fox 20220923.8705766

COVID-19 update (92): animal, Canada, wild deer 20220408.8702494

COVID-19 update (83): animal, USA, mule deer 20220329.8702286

COVID-19 update (80): animal, USA, deer, transmission 20220325.8702212

COVID-19 update (63): animal, Canada, wild deer 20220303.8701773

COVID-19 update (43): animal, USA, wild deer, omicron 20220209.8701357 COVID-19 update (19): animal, Slovenia (LJ) pet ferret, OIE 20220117.8700917

COVID-19 update (15): animal, India (UP) wild leopard 20220113.8700842

2021

COVID-19 update (447): animal, USA (PA) zoo, lynx 20211227.8700517

2020

COVID-19 update (423): animal, Denmark (SL) zoo, tiger, OIE 20211209.8700158

COVID-19 update (418): animal, Belgium, zoo, hippopotamus, 1st rep 20211206.8700102

COVID-19 update (413): animal, Canada, wild deer 20211202.8700020

COVID-19 update (409): animal, Croatia, zoo, lion, OIE 20211129.8699951

COVID-19 update (400): animal, sheep, research, experimental infection 20211121.8699806

COVID-19 update (395): animal, UK, dog, OIE 20211117.8699698

COVID-19 update (392): animal, USA, zoo, snow leopard, fatal 20211115.8699676

COVID-19 update (387): animal, Singapore, zoo, lion 20211112.8699622

COVID-19 update (381): animal, USA, zoo, hyena, 1st rep 20211108.8699526

COVID-19 update (364): animal, USA (IL) zoo, coatimundi 20211026.8699258

COVID-19 update (354): animal, USA, zoo, wild carnivore 20211018.8699125

COVID-19 update (348): animal, USA, zoo, snow leopard, fatal, susp 20211013.8699020

COVID-19 update (265): animal, USA, zoo, snow leopard 20210802.8563564

COVID-19 update (254): animal, USA, zoo, snow leopard 20210726.8545843

COVID-19 update (230): animal, USA, zoo, vaccination 20210705.8496776

COVID-19 update (197): animal, India, zoo lion, fatal 20210607.8430529

COVID-19 update (159): animal, India, zoo, lion 20210504.8344580

COVID-19 update (33): animal, Sweden, zoo, tiger, lion 20210125.8134087

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

2020

COVID-19 update (538): USA, animal, zoo, snow leopard 20201214.8017000

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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